

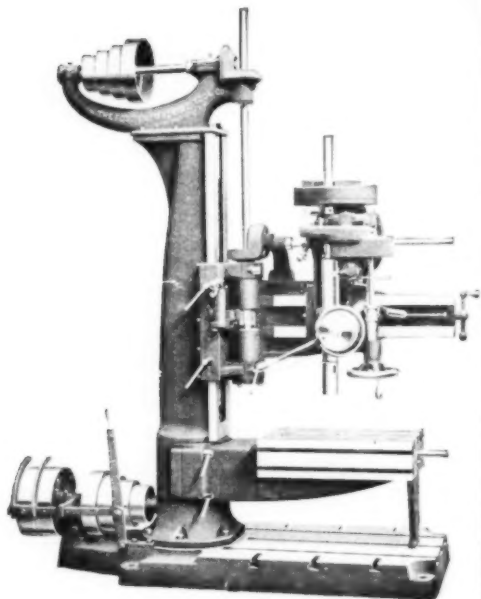
Issued Every Month

For Free Distribution to Users
of Machine Tools

HITCHCOCK'S MACHINE TOOL LIST

A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. Hitchcock
1220-1235 Caxton Building
Chicago



Do Not Delay

investigating the new Fostick 2 1/2 foot radial.

It is the machine for rapid and accurate drilling. Some of its features are—direct reading index; automatic safety stop; power elevating and lowering device, and ball bearing thrust collar.

We build a full line of Radials, from 2 foot to 6 foot inclusive; also a full line of Horizontal Boring, Drilling and Milling Machines.

The Fostick Machine Tool Co
Cincinnati, Ohio

**A
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The

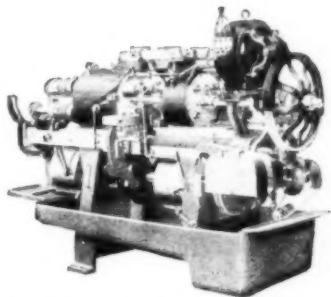
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Acme Methods Increase Production



The Acme Automatic Multiple Spindle Screw Machine

THE high cost of labor and material makes rapid production of duplicate parts necessary.

The Acme Automatic Multiple Spindle Screw Machine works eight or nine tools at once, completing the part in the time usually taken for one operation or less. The result is a gain in production of 50 to 200% over ordinary methods.

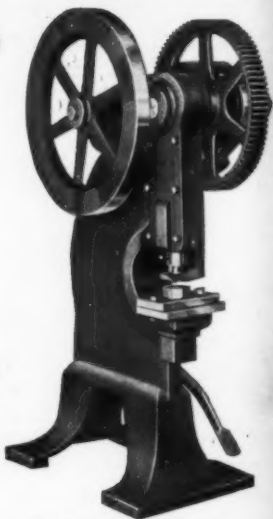
You will want the booklet showing over two hundred jobs where the Acme Method increases production.

Ask for the "200 Reasons Why" book

THE NATIONAL-ACME MFG. CO.

Automatic Screw Machines and Their Products
Cleveland, Sixth City

Whitcomb No. 5 Power Punch



Four Sizes
From $\frac{1}{4}$ " in $\frac{1}{4}$ "
To $\frac{5}{8}$ " in $\frac{5}{8}$ "

**One of the new Whitcomb Line of
Punches and Shears**

Immediate Delivery on

No. 1 Hand Shears
No. 2 " "
No. 3 " "
No. 4 " "
No. 5 " "

In One Week

Hand and Power Shears

In Two Weeks

Power Shears

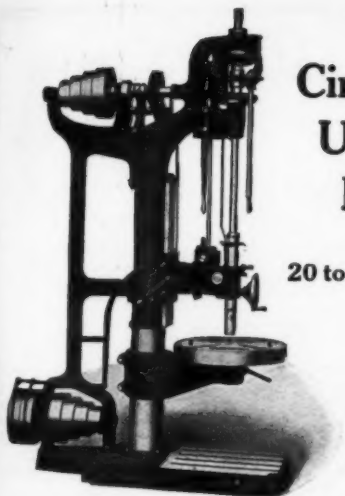
Modern Lathes and Planers

We invite your inquiry

Whitcomb-Blaisdell Machine Tool Co.
Worcester, Mass., U. S. A.

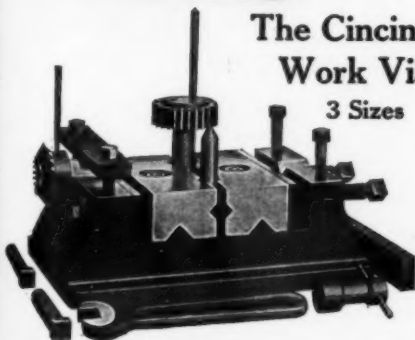
The Cincinnati Upright Drills

20 to 42-in. Swing



The Cincinnati Work Vise

3 Sizes



The Cincinnati Bickford Tool Co.
Oakley, Cincinnati, Ohio

"OHIO" Shaper

Equipped with swiveling table. This attachment is easily adjusted and for many classes of work it is an economical addition to the regular machine.



Ask for catalogue and full description

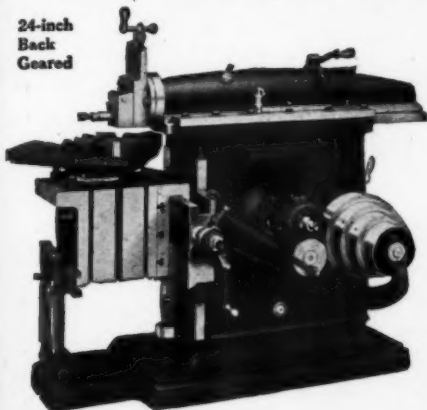
The Ohio Machine Tool Co., Kenton, O.
Planers and Shapers

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Modernism

**24-inch
Back
Geared**



Hardened and Ground Journals In a Shaper

Our hardening process, applied to big lots, is comparatively inexpensive per machine.

It is now general practise with Shaper Builders to **grind** shaft journals, but we go deeper—**Every Journal**, especially **Bull-Wheel Hub** and **Crank-Pin**, is hardened and accurately finished by grinding.

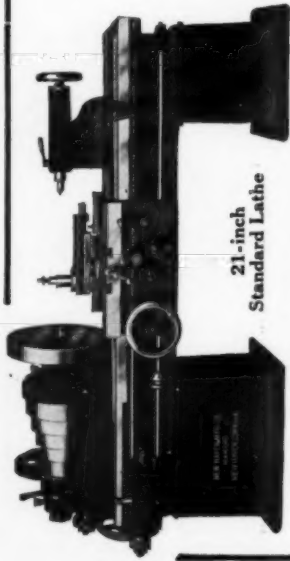
In addition, these journals are self-oiling.

Our construction is simply illustrated by well chosen line cuts.

Ask for circular

Queen City Machine Tool Co.
Cincinnati, Ohio

n, 0.



21-inch
Standard Lathe

Lathes

*that stand for modern
progress and that are
within the reach of
every one.*

We call this our Standard Engine Lathe. It is made 18-in., 21-in., 24-in. and 28-in. swing. It gives more up-to-the-minute lathe service than any other moderate-price lathe offered today.

Write for catalog, which illustrates and describes these modern tools, as well as our Improved Engine Lathes, 24-in. to 65-in. swing; also New Haven headstocks, tailstocks, improved beds, quick-change gears, thread cutting devices, compound rests, feed boxes, aprons, etc.—those details of construction that make the New Haven so productive, convenient and dependable.

Lathes from 18-in. to 65-in. swing, belt or motor drive, single or double back gear. Which do you need?

New Haven Manufacturing Co., - New Haven, Conn.



70 Become thoroughly
acquainted with
Cincinnati Lathes

And you too will install them when ready to buy. We supply them in any lengths of bed and attachments. All have **double wall apron, chasing dial, automatic stop and cabinet leg**. Send for literature now describing these **latest** engine lathes.

The Cincinnati Lathe & Tool Co.
Oakley, Cincinnati, Ohio

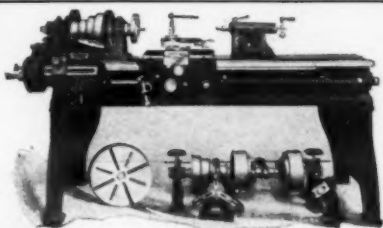


**Champion
Lathes**

Will certainly interest you if you get our Catalog and prices of 10, 12, 14, 16 and 18-inch sizes and make a comparison of their dimensions, which will show you conclusively that we have the one big lathe bargain. It's your gain to get the most for your money.

They are made in Quick Change or New Standard Patterns, Countershaft or Motor Drive, and Extra Attachments if wanted.

Champion Tool Works Co.
2426 Spring Grove Ave., Cincinnati, Ohio, U. S. A.

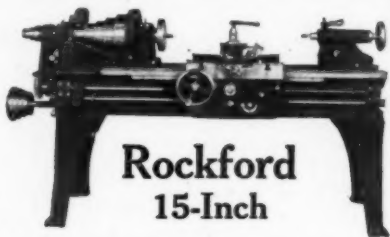


14" B. G. Quick Change Gear Lathe **With 15 1/4-in. Swing**

It has 32 changes of feeds and threads, without removing a gear, under the control of one handle and knob. Indexed to cut threads 3 to 32 per inch; feeds, 20 to 200. All feeds are friction. Rigid construction, generous phosphor bronze bearings, hardened and ground studs. Tested for accuracy within .001-in.

We invite investigation of this modern tool

The Carroll & Jamieson Machine Tool Co., Batavia, O.

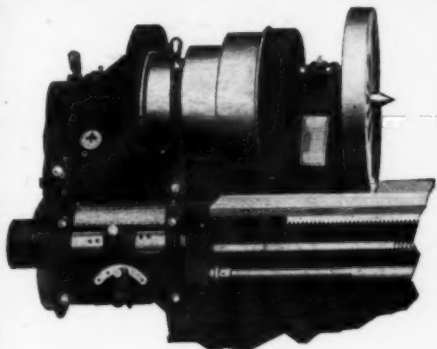


Rockford **15-Inch**

While designed especially for accuracy in tool room work, the Rockford Lathe is equally adapted to manufacturing or other purposes that demand the ability to take heavy cuts. It is of strictly high grade construction, with phosphor bronze bearings, crucible steel spindle, and the best materials throughout, properly distributed for strength, rigidity and accuracy.

Write for full description while you have it in mind

Rockford Tool Co. Harrison Ave. & 11th St.
Rockford, Ill.



Le Blond Double Friction Back Geared Headstock

combines the advantages of the all-gear headstock with those of the old reliable cone drive.

By the manipulation of the back gear lever the operator has a change from a roughing to a finishing cut without stopping the machine, This is exclusive to our design.

Combined with this feature is a higher powered cone design than on any other machine of same size built.

Details?

The R. K. LeBlond M. T. Co.
Cincinnati, Ohio

The

Swings
Weigh
Quick C

The

\$100 More

That's what you pay for other makes
of lathes

That are no better than

Cisco

We give you a good lathe

Strong, Durable, Accurate

and we're selling them

Swings 15 $\frac{3}{8}$ ".

Wide Bearings.

Weights 1500 lbs.

Takes 1 5-16" stock.

Quick Change Gear.

Simple to operate.

A thoroughly good machine.

The Cincinnati Iron & Steel Co.

Cincinnati, Ohio

Makers of CISCO Lathes

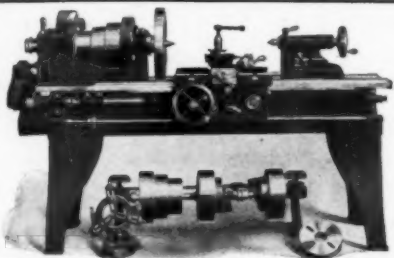
For Strength—Accuracy—Simplicity



Conover-Overkamp
14 & 16-in. Lathes

For all-around accurate lathe work, for all kinds of workmen, they have no superior. No complications to confuse the unskilled operator. Easy to operate and easy to buy. For description and prices, write to—

The Conover-Overkamp Machine & Tool Co.
840 Germantown St., Dayton, Ohio, U. S. A.



Robbins 15" Engine Lathe, with 17" Swing

STRICTLY HIGH GRADE, the result of 27 years' experience in making nothing but lathes. Made with either 3 or 4-step cone for wide belts; also 12-in. and 14-in. lathes with 4-step cone. We invite comparison of their strong, simple and convenient construction with that of any high-grade lathe, and shall be glad to furnish complete information upon inquiry.

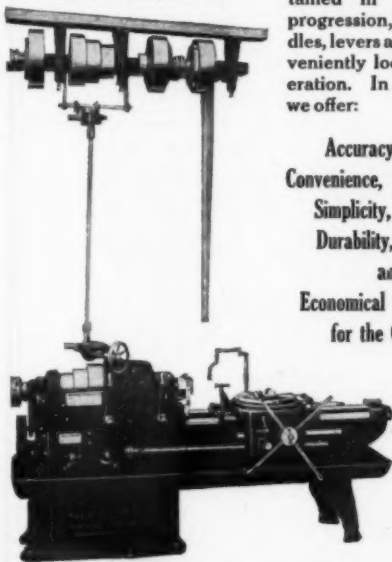
THE ROBBINS MACHINE CO., Worcester, Mass.

The
MODERN
FLAT TURRET
LATHE

2 1/4" x 26"

IS THE
LATEST AND BEST
The Modern Mche. Tool Co.

4659-4661 Spring Grove Avenue
CINCINNATI, OHIO



In the "MODERN" we offer the very latest in Flat Turret Lathe design and construction.

A lathe giving instantaneous change of speeds, with all parts extra heavy, insuring absolute rigidity and a capacity for handling extra sized gangs of tools; also for taking heavy cuts easily and without *chatter*. Variable speeds may be obtained in infinitesimal progression, with all handles, levers and wheel conveniently located for operation. In other words, we offer:

Accuracy, Power,
Convenience, Manipulation,
Simplicity, Strength,
Durability, Rapidity
and
Economical Production
for the Owner.

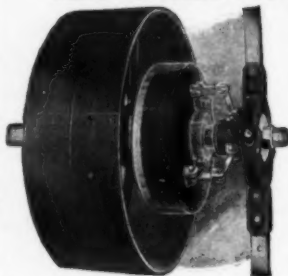
*Write for
Complete
Descriptive
Matter*

*Investigate
At Once*

*Delays are
Expensive*

The Edgemont Plate Clutch

Made to Stand Use and Abuse



Dust and Dirt
don't bother it any
—wearing parts are
fully protected.

No Oil or other
attention of friction
mechanism required.

Clutches for all
transmission pur-
poses, including
the Edgemont Ex-
panding Clutch,
which has been a-
dopted by 40 lead-
ing machine tool
builders.

*We are Friction Clutch experts—that's our business
Tell us your needs, and ask for Catalog D.*

The Edgemont Machine Co., 997 Washington St
DAYTON, O.

Fay & Scott Planer Centers

Improved with Index of Wide Range



Three Sizes, to Swing 13, 20 and 36 inches

WE HAVE SPARED NOTHING to give these centers su-
preme accuracy, convenience and durability. The improved index
not only gives an extra wide range of divisions, but the plates being
cut through like a gear tooth, allows the use of much stronger form
of pin than is possible with a drilled index. Both the work and the
index can be quickly disengaged. Reliable for any work which must
be carried on centers for planing or milling. Also special index
plates for your particular requirements.

Write us your needs today

FAY & SCOTT - **Dexter, Maine**

No. 1 Cabinet Turret Lathe



Swing $20\frac{1}{2}$ Inches
Solid Spindle
Between Centres 34 In.
Bed 7 Feet

Built Also with Friction Head for Quick Speed Change

Swivel head stock for boring tapering holes with power feed.

Screw adjustment for levelling V's when worn.

The maximum quantity of

Perfect Work

has been turned out on these lathes
day after day and year after year.

High Class Construction
Reliable Throughout

The American Tool & Machine Co.

Incorporated 1864

Boston

Besly Patternmakers' Disc Grinder

(PATENTED)

**The most useful and necessary tool in the
modern pattern shop**

With this machine an apprentice boy can do much work which heretofore had to be done by the most skilled workman.

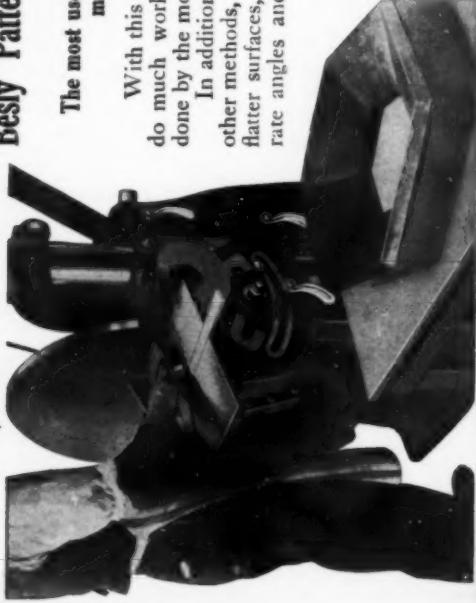
In addition to doing work quicker than by other methods, the grinder produces straighter, flatter surfaces, better glue joints, more accurate angles and dimensions as well as better finish. Ground surfaces make the best glue joints known for wood patterns.

**Made Single or Double End
Belt or Motor Driven**

24, 30 or 40-in. Diameter Disc Wheels

Ask for our "Pattern Making Pamphlet"

Chas. H. Besly & Co.
CHICAGO, U. S. A.



A Valuable Book on **Internal Grinding** ***FREE***

If you are a Proprietor, Superintendent or Shop Foreman, and are interested in any way in internal grinding, you will find in this book information which may help you cut down the cost of production, or improve the quality of your work, or both.

It is written by a man who has made this subject a special study for years, and is full of practical hints on such topics as:—

The latest methods of chucking gears—Chuck designs that should be avoided—

How to finish internally, hardened bushings having thin walls, without distorting them—

How to hold pistons while grinding the wrist pin holes—

And how to handle a variety of grinding problems met in everyday practice.

If you only knew the value of this book, you wouldn't be without it—

***Just fill out and return the coupon—
and it is yours***

THE HEALD MACHINE COMPANY

6 NEW BOND STREET,

WORCESTER, MASS.

Please send me a copy of "Practical Hints on Internal Grinding"

Name

Address

Occupation.....

Blount Improved Wet Tool Grinder



For 20x2½ and 30x3 in. Wheels.

We do not have to explain our system of construction, or how a constant supply of water is maintained at all times, as this has been done for years, but we would call your attention to the height from the top of tool rest to the base of the pan.

Our ever increasing sales is a guarantee to the efficiency of this tool.

Illustrated catalogue will be mailed on request

Manufactured by

J. G. Blount Company
Everett, Mass.

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Patented



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More and Better Patterns at Less Expense

These results are guaranteed from the intelligent use of

Gardner Patternmaker's Disc Grinders

One of the best known and most successful machine tool designers in the United States recently said: "Those machines represent the highest improvement in patternmaking equipment that has been made since Noah built the ark."

Made in various types and sizes. Ask for illustrated Booklet.

Gardner Machine Company
Beloit (The Disc Grinding Authorities) Wisconsin



The Patent Speed Controller on the Ransom Motor Driven Grinder

**Automatically maintains the same periphery
speed on grinding wheels of different diameters**

It speeds up the motor as the emery wheel wears down, insuring constant maximum grinding efficiency, and makes it impossible to speed wheels too fast for safety.

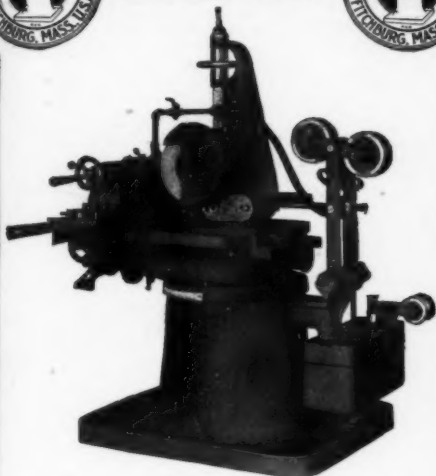
The Grinder is of massive construction, with high carbon steel arbor running in ring oiling dust proof boxes. Made regularly to take care of any ordinary foundry work. Specially large, heavy machines made for grinding steel castings.

Write for Bulletin No. 9 giving full description

Ransom Manufacturing Co.
Oshkosh, Wis.



IMPROVED!



The above cut shows Side and Rear View of
BATH IMPROVED UNIVERSAL GRINDING MACHINE
the result of many years' careful study.

Your particular attention is called to the wheel drive; the wheel is driven from a cone pulley overhead, the lifting strain of the belt is taken by two Idler Pulleys which are carried by the base of machine, eliminating any "jumping in" of wheel, and providing means of taking up slack of belt.

Write today for complete story

And remember, the Bath Universal Grinding Machine is adapted for grinding Cylindrical, Internal, Surface, Disc, Cutter and Reamer grinding of every description.



Bath Grinder Co.

75 Walnut St., Fitchburg, Mass.



Saws Duplicate Pieces Automatically

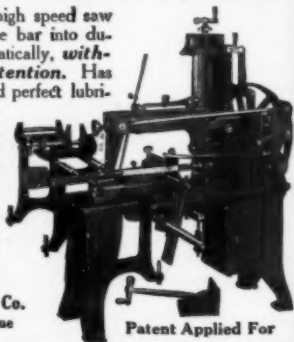
The Marvel No. 5 increases results tenfold

It's an improved high speed saw that cuts up the entire bar into duplicate pieces, automatically, *without operator's attention*. Has a draw-cut stroke and perfect lubrication. Does accurate work with minimum waste of material. All this makes the Marvel a 10 to 1 winner.

Send for descriptive circular of this machine and other Hack Saws, Punches and Shears

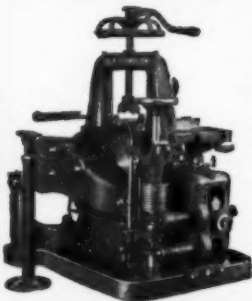
Armstrong-Blum Mfg. Co.

341 N. Francisco Avenue
Chicago, U. S. A.



Patent Applied For

The Lea-Simplex



It has the cutting edge and the power behind it to cut the time and cost of cutting cold metal. It has greater capacity than any arbor driven machine of equal blade capacity.

You will find it fully described in our catalogue

Write for it now

Lea Equipment Company

4900 Stenton Ave.,

Philadelphia, Pa.

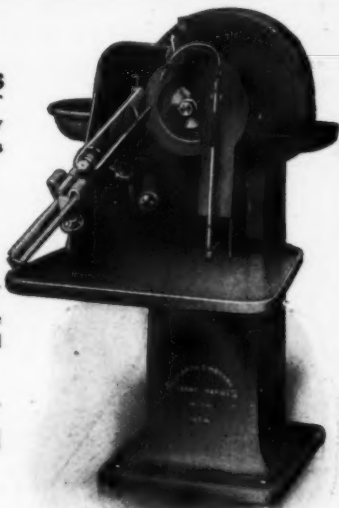
Two Machines

**Which Every
Shop Needs
For Only**

**One
Cost**

**One Floor Space
One Power Bill
One Price**

**Wet Tool
and
Drill
Grinder**



You can now get both a drill grinder and a water tool grinder in one. Two men can use the machine at the same time without either interfering with the other. Drill grinder or water tool grinder can be furnished separately where the other is already installed. We also have a line of surface grinders, cutter and reamer grinders, and the NEW YANKEE drill grinder in other combinations or plain, in endless variety to suit every condition.

Have you gotten your free copy of the "Brief Treatise on Lathe Center Grinding" and description of the new WILMARTH & MORMAN Center Grinder? If not, get it quick. You will miss it if you don't.

New complete catalog mailed free on request

Wilmarth & Morman Co.
575 Canal St., Grand Rapids, Mich.

"Detroit" Twist Drills

Scientific Standards



Govern every process in the making of "Detroit" Drills. Their use insures Accuracy, High Efficiency, Length of Service. They are ground to the one two-thousandth of an inch; the lip angles are equal, which means that both lips cut all the time; the web is central and the grooves milled with precision.



Carried
by
Dealers
every-
where

Write
today
for
Catalogue
"J"



"Detroit" Twist Drills

Reduce shop costs; require the least re-grinding; retain the proper hardness and toughness, and cut the most metal at the highest speed.

Test them out. Prove to your satisfaction—AND PROFIT—that they do what drills must do in the modern, high-efficiency shop.

DETROIT TWIST DRILL COMPANY

Improving Twist Drills Since 1886

510-522 Fort Street, DETROIT

1006 Wabash Avenue
Chicago

30 Church Street
New York



Electric Air Cooled Drills

Are Best by Test

Are You Still Paying Two
or three prices for a job
just because you have al-
ways done so



The fact that the U. S.
Government tests prove they
are superior in every respect
should be convincing evidence
to all users of this type of tool.

Aside From This

there's the evidence of thousands of users all over the United States. Would they use them if they were not the best? Hardly.

Want a Catalogue? A Postal will bring it.

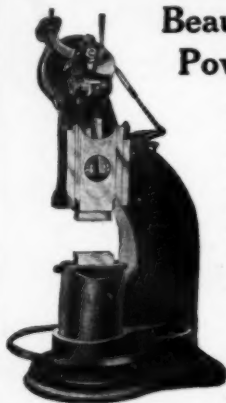
We use aluminum for Casing on all Drills to cut down weight
Power from any Lamp Socket

SENT ON TRIAL ANYWHERE

*Made for alternating or direct current
Just attach it to your nearest lamp socket*

The United States Electrical Tool Co.
Cincinnati, Ohio

NEW YORK, 50 Church St.
BOSTON, 12 Pearl St. CHICAGO, 8 E. Michigan St.
PHILADELPHIA, Heed Bldg., No. 1211 Filbert St.



Beaudry Champion Power Hammers

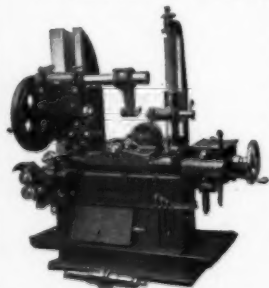
Occupy small floor space;
will handle varying thick-
nesses of stock without re-
adjusting; quick and direct
acting and always under
perfect control.

*New Catalogue just out
Ask for it*

Beaudry & Co., Inc.
Oliver Bldg. Boston, Mass.

All-Purpose Gear Cutters

Automatic and Positive in Operation



Simple, automatic
manufacturing tools,
made in several sizes,
for all classes of gear
work.

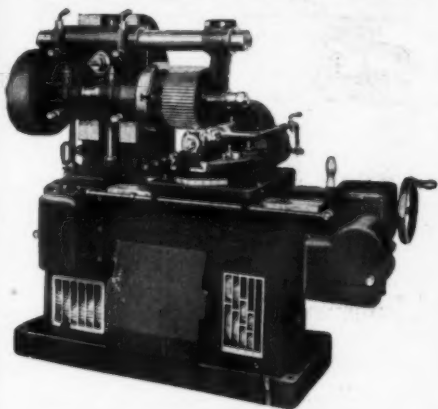
Accurate indexing
mechanism, with
safety stop to prevent
carriage feed during
indexing.

Long cutter car-
riage with draw
stroke.

New Catalog?

Newark Gear Cutting Machine Co.
69 Prospect St., Newark, N. J.

A Gear Manufacturing Machine



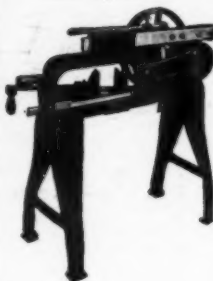
The Barber-Colman Hobber

The success of this machine in rapidly cutting correctly generated spur and spiral gears of the highest accuracy and uniformity, at a remarkably low cost, has demonstrated that gear hobbing is a manufacturing proposition, and the most practical and effective method of quantity production. The exceptional results obtained with this tool suggest the possibility of economy in your gear cutting that make a careful investigation worth while. May we not assist you with information more in detail?

Requests for proof are invited

Barber-Colman Company
Rockford, Illinois

Economy Power Saw No. 2



This machine will cut 6x6 in. Cuts fast and accurate at less cost than any other.

It is a Draw Cut with Cam Lift on return stroke. Swivel Vise, Graduated, Automatic Stop, built like a machine tool.

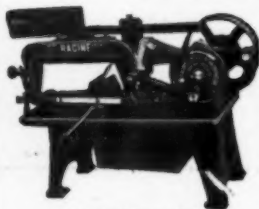
It will last a life time and you cannot afford to be without it. You can have it on trial. Write for sample of work and prices.

We Build All Sizes.

W. Robertson Machine & Foundry Co.
Buffalo, N. Y.

The Racine High Speed

Positively the BEST Metal Cutting tool on the market



Patented July 13-09

Up-to-date in every way

A machine that is guaranteed to give satisfaction. Let us ship you one of these money savers on trial. If it does not reduce your cutting costs and give general satisfaction it will be your privilege to return the machine at our expense.

Write us today

Racine Tool & Machine Company
Racine, Wis., U. S. A.

A MAN ACTUALLY BOUGHT 43 GOOD TWIST DRILLS FOR 25^c

He stood in the yard of one of the plants of a large brake shoe company and saw them unloading a car of scrap from an eastern railroad. He picked out forty-three good twist drills, gave the superintendent a quarter and took them away. True, the tangs were twisted off, and on some the shank was broken so that only $\frac{3}{4}$ inch remained, but it was only necessary to grind a flat on what was left and put them in

The "USE-EM-UP" Drill Socket

to make them practically as good as new drills. Since this incident happened this socket has been adopted by ninety-one railroads. They have quit scrapping broken drills. Why don't you?

HERE 'TIS

See that flat?

ONE SOLID PIECE



Standard Except the Flat

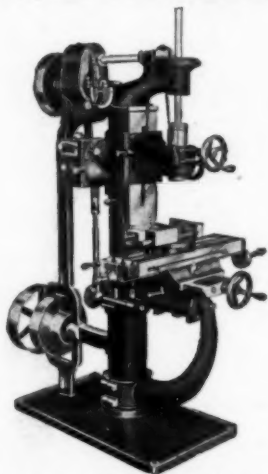
Made in All Sizes and Combinations

The lowest priced and simplest device for using up discarded drills, and doing away with all drill-drive trouble. Just grind a flat (two minutes' work) on the shank, and put those idle tools to work.

American Specialty Company
29 E. Madison St., Chicago, Ill.

Greater { Convenience Production

The Knight No. 2 Milling and Drilling Machine makes good in tool room and experimental department

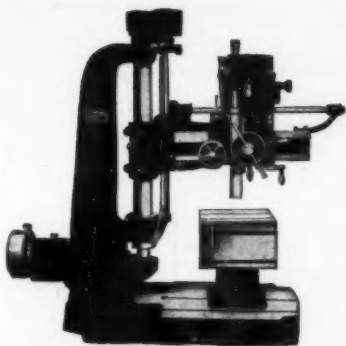


SAVING A MINUTE here and a minute there soon counts up—many factories are saving from 20 to 50% of time on all kinds of hard machining and difficult operations. Just think what that would mean in your tool room.

The Knight mills, bores and drills at any angle with just one setting of the work. Dies, jigs, metal patterns, moulds, etc., are its specialty. Made in three sizes.

A postal request brings information and prices

W. B. Knight Machinery Co.
St. Louis, Mo.



Morris Plain Radial Drill

Is proving a source of satisfaction in many shops where simplicity of operation, accuracy and reliability are appreciated.

Eight changes of feed instantly obtainable, quick return of the spindle, the elevation and lowering of the arm by power, the changing of the back gears while the machine is running, are all features that go to promote rapid production with this machine.

The general rigid and simple construction of this tool insures long life and less cost in maintenance.

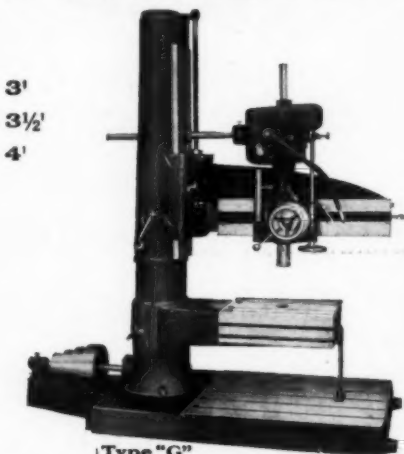
Morris Radials will make good in your shop because they are made good in our shop. Write for circular and prices. They will interest you.

The John B. Morris Machine Tool Co.
Cincinnati, Ohio

Also makers of the superior MORRIS Engine Lathes.

Another Gang Success

An Improved Radial Drill and Tapping Machine having no equal today for capacity and convenience



Type "G"

This up-to-date tool is a strong and effective combination of simplicity of design, rigidity of build, and convenience of operation. It has powerful friction clutches and handles very heavy tapping.

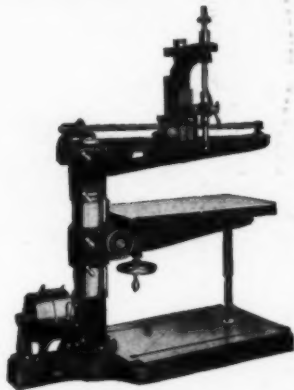
The single-lever spindle control, the improved spindle drive, four rates of feed for each drilling speed, 12 spindle speeds when furnished with speed box, the depth gage and automatic stop—are all aids to greater production for the same labor and power expense. You have a choice of seven kinds of tables.

*Write for descriptive circular of this Top-Notcher.
Our catalog shows a variety of Radials.*

The William E. Gang Co.
Cincinnati, Ohio

Sensitive Radial

A 3-ft. Machine for Holes up to $\frac{3}{4}$ -in.



IT CAN SAVE YOU big money if you have small holes to drill in large work. Ordinarily a great deal of time is wasted in handling work of this kind, and manufacturers are quick to appreciate the saving made possible.

The T. & F. combines the convenience and efficiency of the high speed drilling machine with the capacity and flexibility of the radial. Adjustments are so easy that they take only fractions of a minute.

Automatic power feed, lever feed, high speed sensitive or tapping heads may be used, either singly or in combination. Three spindle speeds; positive, silent chain and gear drive.

A real time and money saver. Write for particulars.

The Taylor & Fenn Company
Hartford, Conn.

KOKOMO HI-SPEED

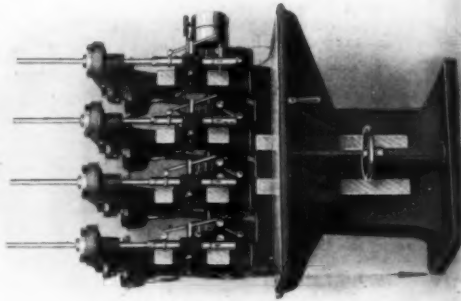
Vertical Drilling Machine

Drilling 1 1/8-inch holes through 1-inch cast iron in 7 seconds without injury to High Speed Drills is work that can be accomplished by the use of any of our Kokomo Hi-Speed Drilling Machines.

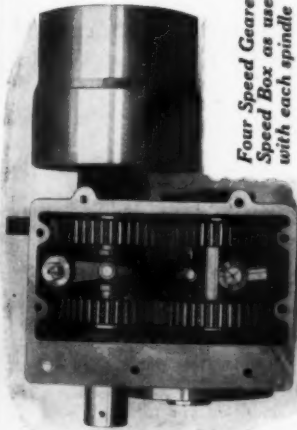
You can increase your production by using our machine for drilling all sizes of holes up to 1 1/8-inch and also effect a great saving in twist drill expense and labor over other types of High Speed drills.

The Kokomo Hi-Speed Sensitive Drilling Machine is the only one built that does not depend upon extremely high spindle speeds for capacity. We have the greatest power when driving the larger size drills, which enables us to obtain remarkable results and justifies our claim to superiority.

If you have a drilling problem covering holes up to 1 1/4-inch, communicate with us; we will try to assist you.



If you have a drilling problem covering holes up to 1 1/4-inch, communicate with us; we will try to assist you.



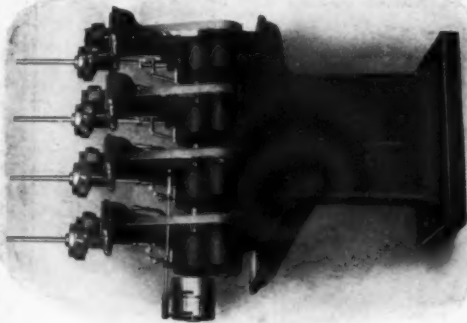
*Four Speed Geared
Speed Box as used
with each spindle*

Built in 16¹/₂ x 20¹/₂ x 25¹/₂ and 30¹/₂ Swing, in One, Two, Three and Four spindles. Ask for catalog "H".

Catalogue of our entire line of Vertical Drilling Machines mailed on request

Superior Machine Tool Co.
Kokomo, Indiana, U. S. A.

Cable Address—Kokodrill—U. S. A. Codes Used—Lieber's—A. B. C.—Western Union



Rear View 4-Spindle Machine

Mechanics' Line

Friction Drills: No. 1 and No. 2 and friction bench drills.

Standard Uprights: Our popular 14-in. belt-driven drill, also 20, 23, 24, 26, 28, 32 and 36-in. heavy drills with all variations. Cut shows our 23-in., with lever, wheel and positive feed, back gear, automatic stop, etc.

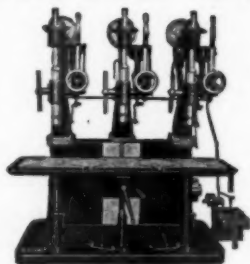
Gang Drills: with 2, 3, 4, 5 and 6 spindles, box or single column, with or without oil pumps.

*Write for Catalog and Prices
on the "Mechanics' Line"*



MECHANICS' MACHINE CO., - Rockford, Ill.

Rockford Gangs



They not only drill, but they bore, ream, tap and face without removing work from jig.

Write for descriptive matter

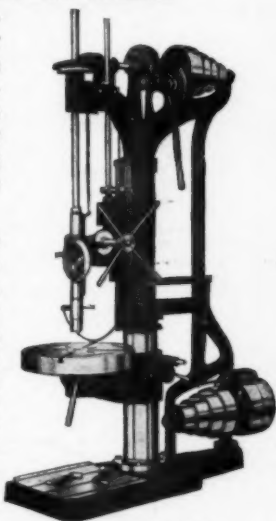
**Rockford Drilling Machine Company
Rockford, Ill., U. S. A.**

The Drill You Want For Economy's Sake

Built 14 to 44-Inch

It is false economy to use a lighter drill, when the more sturdily-built Aurora Uprights can be driven under higher pressure, increasing production at the same labor cost.

It is doubly false economy to use lighter drills, when the extra-heavy Aurora Uprights are sold at the close prices that we are enabled to make by the character of our equipment, our location, and by our concentrating upon the one thing.

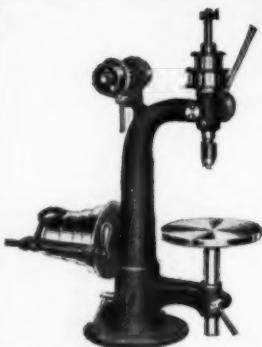


32-Inch Aurora Drill

You will find them doubly satisfying in their reasonable first cost and in the economy of their production.

*Send us your name and address, and we
shall be happy to tell you all about Aurora Drills*

The Aurora Tool Works
Aurora, Ind.



Myers Bench Drill

Ball Bearing Thrust
Swivel Table
Two Speeds
Countershaft attached
 $\frac{3}{8}$ " Chuck fitted to spindle
Steel pinion
Drills to center of 10 $\frac{1}{2}$ "
Weight, crated, 80 lbs.

FULLY GUARANTEED

Priced lower than any
other drill of its size

*See them at your own
dealer's store, or address*

Myers Machine Tool Co., Columbia, Pa.
Philadelphia, Pa., Office & Salesroom, 249 N. Third St.

20" Power Drills

Made in
Eight Styles

Round or Square Base

LEVER FEED

LEVER and WHEEL FEED

**POWER FEED and Automatic
Stop**

**POWER FEED with Back Gears
and Automatic Stop**

Send for catalog

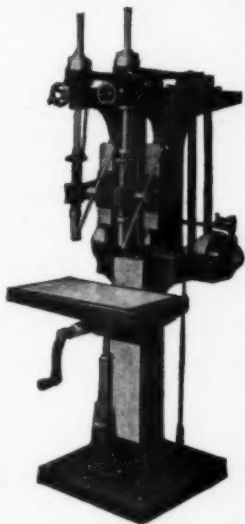


Fig.
862

The Silver Mfg. Co., 385 Broadway
SALEM, OHIO

**If You Want
Greater Production
At Reduced Cost**

The
Avey
Ball
Bearing
Drilling
Machine



Is what you need

With Greater Driving Power, Higher Speed, More Range and Less Loss of Time in Adjusting, you will find that your labor expense will be cut in two.

An hour of comparison will save you many hours of labor in the shop.

**The Cincinnati Pulley Machinery Co.
Cincinnati, Ohio**



Burke Quality Excels on Fine Points

To get the

Burke

quality, be sure that the name and address (Conneaut, O.) are cast on the frame of the machine.

For Sale Everywhere

Look Here, Please!

A Sensitive Drill With Six Spindle Speeds

from 600 to 2,400, with ample power for $\frac{1}{2}$ -inch drills and plenty of speed for the smallest drills.

**Net Price, with Motor,
\$100.**

*If your Dealer doesn't have them,
write us*

Reed Drill Co.
43 Hammond Street
Worcester, Mass.



The "Barr" Drilling & Tapping Machine No. 51

Drills up to $\frac{3}{4}$ in.
Taps up to $\frac{1}{2}$ in. in C. I.

The handiest tool you ever used.

Diameter of spindle - 1"

Spindle to column - $8\frac{1}{4}$ "

Traverse of spindle - $5\frac{1}{2}$ "

Morse taper - - No. 2

Spindle belt - - - $1\frac{1}{2}$ "

Spindle pulley - - - 7"

Table - - - - 13x14"

Approximate weight 550 lb.

Endless belt and tightener.

Ball thrust on spindle.

Automatic reverse at both ends of spindle traverse.

Fully adjustable.

All steel gears.

C. S. Speed 400 r. p. m.

Material
Workmanship } Guaranteed.
Accuracy }

One hundred dollars (\$100)

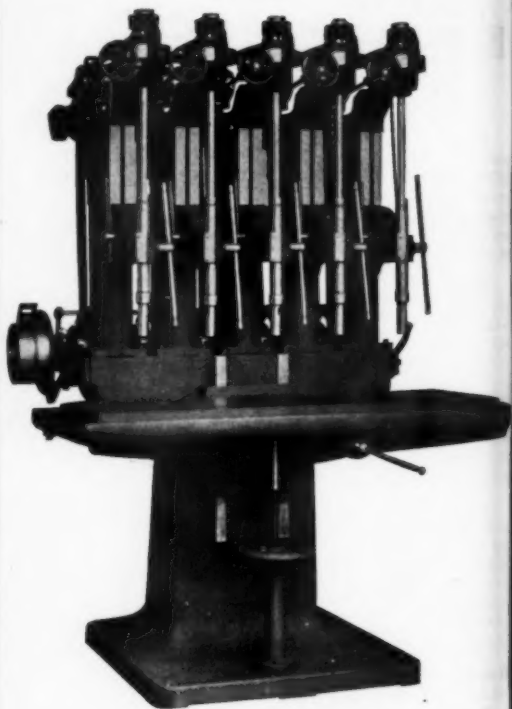
f. o. b. Worcester, Mass.

Special attention given to fitting any of our machines to meet your requirements.



Send for information any way. Keep your files up to date.

H. G. BARR, 21 Hermon Street, Worcester, Mass.



No. 5, Class B

Five Spindle—High Speed

B

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The

New Model

Ball Bearing High Speed Drilling Machines

Our new Class B Machines mark the most important advance recently made in the design and efficiency of high speed drilling machinery. They have been strengthened and improved in every detail, as the result of an exhaustive study by expert designers, who have had in view the single purpose of making them the most effective machines for drilling metal yet produced.

These improvements are of vital interest to everyone who uses high speed drilling machines, because each adds something to the convenience and capacity of the machine, as well as the economy of its operation. Those who are seeking to increase their output per man and per machine unit, will be interested in a booklet which we have prepared showing these improvements in detail. A copy will be sent if you will give us your address. You will find the information in it worth while even if not now in market for better machines. An acquaintance with our Class B Drilling Machines may suggest a cost-saving that has not yet occurred to you.

That the Henry & Wright Machines have made some splendid records for drilling efficiency is indicated by the fact that installations are almost invariably followed by the addition of more and more units as the business of the factory grows. In one large establishment the high speed drilling equipment, exclusively of our Ball Bearing Machines, closely approaches 2,000 spindles, and is pronounced by experts not only the largest, but the most highly efficient drilling plant in the world.

We make High Speed, Ball Bearing Drilling Machines, with from one to eight spindles, and with an overhang of either 8, 12 or 15 inches.

Also special assemblages having 16 inches between centers.

Don't forget to send address for the Booklet

The Henry & Wright Mfg. Co.

67 Windsor St., Hartford, Conn.

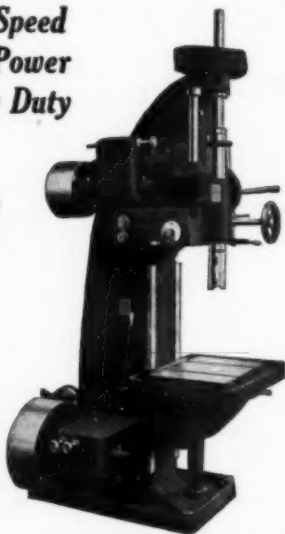
Maximum Production Minimum Labor Cost

If these subjects are of interest to you
let us show you how to do boring,
drilling and facing on the BAKER

*High Speed
High Power
Heavy Duty*

Built in
several
capac-
ities.

*Send
for
catalog
7-BK*



BAKER BROTHERS

Toledo, Ohio

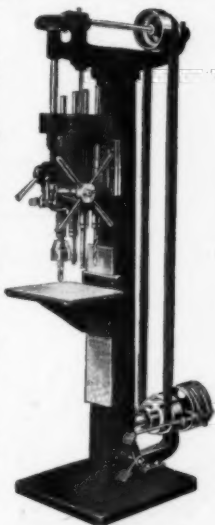
Several Operations At One Setting of Work

Such as Drilling different sized holes,
Tapping, Reaming, Counterboring,
and a great variety of chuck and jig work, at proper feed and
speed for each, without stopping the machine until all opera-
tions are completed. The great
economy of the

Turner Turret

for performing two or more opera-
tions on duplicate parts is ab-
solutely beyond question. With
one setting and one attendant,
it does the work of several ma-
chines and takes the room of
only one. It secures the full ef-
ficiency from high speed tools,
is permanently accurate, and its
movements are smooth and rap-
id and under easy control.

Setting up tools is done with-
out loss of time, for only the
working spindle revolves, and
the operator can put the other
tools in place, or change a tool,
while the first one is running.



Model B, Hand Feed.

Made in 24 styles and sizes, with from four to six spindles. Hand
or power feed, or both. Automatic stops and lock for turret.

*Send us a description of your duplicate work, and we will make you
an interesting proposition on the machine best adapted to your use.*

Turner Turret Machine Co.
Danbury, Conn.

KEYSEATER

For Your

DRILL PRESS

We make them in 20 sizes.

Ask for booklet

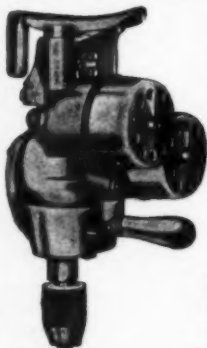


Bushing for different diameters

National Machine Tool Co.

128 Opera Place

Cincinnati, Ohio



A Trial Shipment

Gentlemen:—

*Received your Electric Drill
and find it very satisfactory.
I enclose check for same and
would like you to ship me two
more Drills at once.*

Yours very truly,

.....
We can meet your requirements with a trial shipment. Try a Temco Drill and you will want no other.

The Temco Electric Motor Co.

55 Sugar St., Leipsic, Ohio, U. S. A.

"HISEY"

Portable Electric Tools

"Hisey"
Aerial
Grinder



For
Direct
Current

It's Mighty Handy

for grinding heavy castings, cylinders, welded metals, or for buffing or polishing. It can be suspended anywhere in the shop, or counterbalanced from ceiling or traveler, and cord run to the nearest lamp socket. Made with adjustable body or end handle, or with both, as shown in illustration, also with 12-inch extension for use in close places.

"Hisey" Portable Drills and Grinders

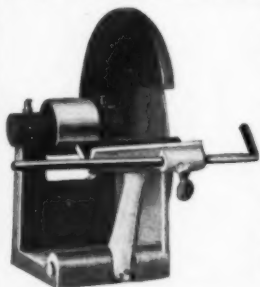
are made in the largest factory of the kind in the world, they afford the customer the widest selection, and their wide-spread use in this country and abroad is a guaranty of their splendid efficiency and absolute reliability.

Tell us your needs or write for complete catalog

Hisey-Wolf Machine Co.
Cincinnati, Ohio

A Good Abrasive Metal Saw For \$16.50

The cheapest and best tool for cutting high-speed steel up to $\frac{1}{2}$ -in. square.
Also angles, channels and tees, brass or iron, up to 1-in. diameter



The Peter Saw

is compact and simple, but thoroughly well made and designed for long, hard service. Will save its cost every few months. A necessity for users of high-speed steel, because it cuts it in one quarter the time required for notching and breaking, and leaves the ends square and smooth. Uses an 8x1-16-inch wheel, easily renewable at nominal cost.

Fifteen Days' Trial

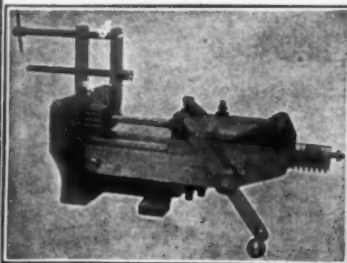
Write for one—test it yourself

Peter Bros. Mfg. Co.

Algonquin, Ill.

The Champion

A Hand Operated Key Seating Machine



Will make key-seats as rapidly and accurately as the expensive stationary machines, and can be used on light or heavy work, in any part of the shop. Many jobs that cannot be done on a stationary machine can be readily done on the Champion. A great time and expense saver.

For price and complete description address

F. L. Schmidt Company

150 Eleventh Avenue,

New York, N. Y.



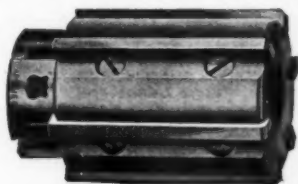
If You Are Paying Real Money

for your workmen's time, don't make them waste any of it in nursing solid reamers that are worn undersize.

Give them "StanaR" Adjustable Reamers. They will do the work right, they can be readjusted and re-ground to size quickly, and they will outlast many solid reamers.

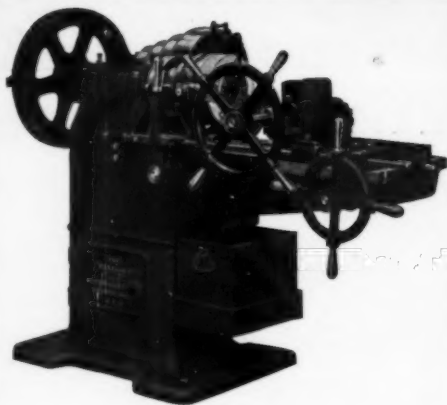
Furnished in hand, shell, and chucking styles; Carbon and High Speed steel blades.

Write today for Catalog No. 19 and quotations



THE STANDARD TOOL CO.

6900-6934 Central Ave., Cleveland, Ohio



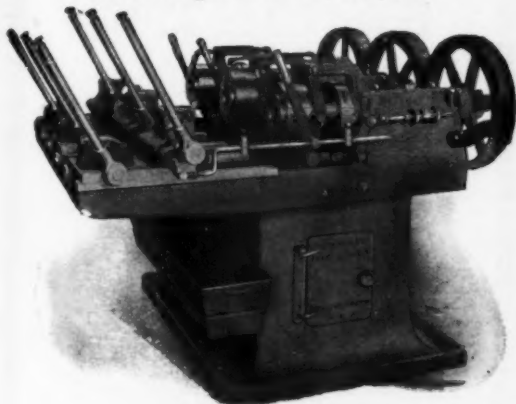
Reliance Bolt Cutters

Built in sizes $\frac{3}{4}$ inch to 6 inches, Single, Double and Triple, of the most up-to-date design. There is, also, a good reason why the "Reliance" is such a satisfactory machine for accuracy of threads cut, large production and low cost of maintenance, even in the hands of inexperienced labor. A lot of this reason is in the Opening Die Head, and we would like to tell you all about it. Interesting information for the asking.

The Foote-Burt Co., Makers
Cleveland, Ohio

Standard Triple Bolt Cutter

Most Rapid Machine Made



1½ and 2-inch Sizes

The Triple Machine is equipped with all the regular standard parts as used in the other models, excepting the carriage and vises.

Each vise is operated by a compound ratchet, and a half twist of the operator's hand controls the opening and closing.

Forward and backward movements of the carriage are driven by a rack and gear, which is located centrally, and there can be no binding of the carriage. One movement of the lever will run the carriage backward or forward. 12 inches of thread can be cut without regripping the work.

Die control is automatic.

The strongest and most rapid machine made

Manufactured by

The Universal Machine Company

Bowling Green, Ohio

Sold by Niles-Bement-Pond Co., New York, N. Y., Philadelphia, Pa., St. Louis, Mo., Detroit, Mich., London, Boston, Mass., Pittsburgh, Pa., Chicago, Ill. and Birmingham, Ala. Eccles & Smith, San Francisco, Cal. Rudel-Belnap Machinery Co., Montreal, Can. Zimmerman-Wells-Brown Co., Portland, Ore. W. Steinhaus & Co., Paris, France.

Riveting Costs Reduced From 60 to 250%



This boy is welding handles on sauce pans,
3 spots to each pan.

564 Dozen Pans in 10 Hours!

Labor costs cut from 10¢ per dozen for riveting, to
less than 1/2¢ per dozen by our method, and the
operator makes better wages than he did before.

Let us show you how you can reduce your costs from 60%
to 250%. We back up our statements and prove them.

Your name and address, please

No Lease

No License

No Royalty

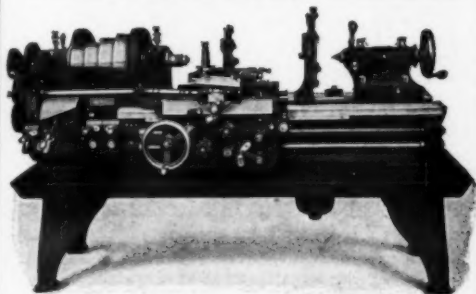
The Toledo Electric Welder Co.

Station A,

Cincinnati, Ohio

**A
New**

Tool Room Lathe



The New "American" Tool Room Lathe is the very latest designed machine of its type on the market.

Includes The Following Features:

*Bronze Bearings
Steel Gears
Unlimited Thread
and Feed Range
Drop V Bed
Chilled Ways
Double Plate Apron*

*Universal Relieving Attach-
ment
Straight, Taper, End
and Internal relieving per-
formed without Changes in
or additions to regular
equipment.*

Guaranteed Accuracy

Write for Circular No. 4

The American Tool Works Co.

Lathes—Planers Cincinnati, U. S. A. Shapers—Radials



Terrell All Steel Facto

adds the last touch of completeness to your plant. It is improvement in order, neatness and efficiency; that is in line with the modern idea that activities pay the largest, surest dividends.

Sanitary Steel Lockers

Made in single or combined units, they are readily arranged to give the greatest storage capacity that is possible in a given space and as they are thoroughly ventilated, fire-proof and securely locked, they are at once safe, clean, economical and durable. The Terrell Lockers are made in a variety of styles and sizes to meet differing shop and factory requirements, each design has been carefully worked out to obtain strength, stiffness and resistance to wear without undue weight or excessive cost. They will satisfy you in appearance, construction and service.

*Let us tell you how cheap they are
Maybe you'll be surprised.*

Terrell's Equipment Co.

Hall & Division Sts.,

Grand Rapids, Mich.

Steel Shelving and Stock Bins

Terrell Steel Fixtures save in room, because with the same floor space the storage capacity is increased about 25 per cent; they save insurance, because their fire-proof and fire-retarding qualities justify and bring a lower rate; they save maintenance cost, because the material in itself is indestructible, and the construction in interchangeable units by the Terrell system enables them to be extended, reduced or shifted without injury; they save also in the stored material, because each bin or shelf is arranged for its contents, which facilitates handling and decreases loss and waste. Yes, Steel Equipment does cost a little more at first than wood, but the difference, which is not great, is quickly covered by the superior working economy of steel. It is in no proper sense an expense, but an investment of permanent value and real earning power.

Ask for estimates of cost

You'll be glad to know how reasonable it is

Factory Equipment

is movement that makes for economy; that helps in promoting the idea that good tools, clean shops, and well cared for oper-



Threaded work that cannot be done to advantage on the usual Screw Machine, is handled by the

Geometric Threading Machine



It is not an ordinary bolt cutter, but is designed for

producing correctly finished threads in quantity. Will cut threads as rapidly as the operator can start the work in.

Is adapted to a wide range of thread cutting, such

as called for on gas fixtures and electrical specialties, connecting rods, automobile parts, spark plugs, bicycle axles, brass castings, drop forgings, etc.

Send for Descriptive Booklet

The Geometric Tool Company
New Haven, Conn.

Tool Room Milling



No. 2-B Heavy Plain Milling Machine **Capacity 28 x 8 x 19-in.**

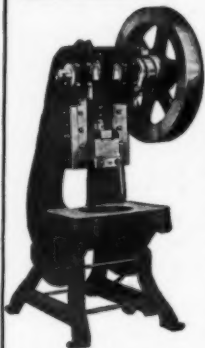
One of the most particular operations in the tool room is the boring of jigs and fixtures.

This work requires a machine that is exceptionally strong and rigid, for the greatest accuracy is required in work of this character. Especially suited to this work is the above machine.

Send for circular containing detailed description

Brown & Sharpe Mfg. Co.
Providence, R. I., U. S. A.

YOU AS A MANUFACTURER OF TODAY



Want a Press that will meet today's requirements—**GREATER PRODUCTION** with less cost.

HIGH DUTY
ROCKFORD
PUNCH PRESSES

Have every facility for **HIGH SPEED PRODUCTION** without waste of power.

Write today for details

ROCKFORD IRON WKS.
ROCKFORD, ILL.

LEIMAN BROS. ROTARY POSITIVE HIGH PRESSURE BLOWERS AND VACUUM PUMPS

For use with all Oil and Gas Appliances, Agitating Liquids, Sand Blasting or

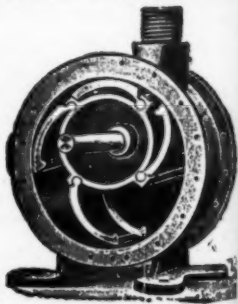
VACUUM CLEANING

1 oz. to 10 lbs. pressure
1 to 20 in. Vacuum
2 to 338 cubic ft. per min.

Take up own wear.
Cant get out of order.

Blower Catalog No. 26
Vacuum " No. 27

LEIMAN BROS.
62 R. John St., NEW YORK



\$10.00 For a Good Ad

We can't write ads. that will get *some* people to try a Greenerd Arbor Press.

You know how valuable they are, how much they save, you know all the many purposes for which they are used.

Write us an ad. to be used in Hitchcock's Machine Tool List. If it is better than the other fellows' we will pay you Ten Dollars.

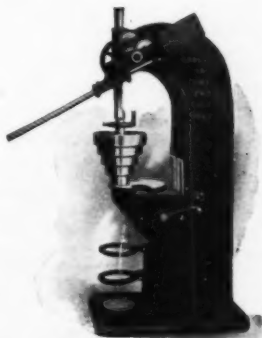
Please address replies to

Edwin E. Bartlett

336 A Street,

Boston, U. S. A.

Greenerd
Arbor
Presses
12 Sizes



Built
up to
25 Tons
Pressure

Put Your Lamps Under Lock and Key

In these days of expensive Mazda Lamps, it's mighty important that every lamp you own burns its full number of hours. Stolen and broken lamps run into big money—all the faster when Mazdas are used.

You can Stop All Lamp Waste by Locking Your Lamps into the socket with a



LOXON
LAMP GUARD
THE KEY TO SAFETY

It Locks on with a Key and means Absolute Security from Theft as well as Breakage.

Inexpensive to install, a Loxon quickly pays for itself many times over.

Be sure you Guard with Loxon—the Safe Locking Guard—the one that Assures **Complete Safety**.

FREE SAMPLE FOR TEST

Write on your stationery how many exposed lamps you have.

McGill Manufacturing Co.
59 Oak St., Valparaiso, Ind.

Surpasses All Others. A Trial Will Convince You.



The Collapsible Tap

makes good everywhere, because its construction absolutely insures continued duplication of threaded work. The form of the chasers prevents their clogging up with chips—a common trouble with devices of this kind. The tap is adjustable both for diameter and depth to be tapped. Chasers can be ground on the end, thus easily kept in proper condition for bottoming. Will tap pipe threads or finer. Made in eleven sizes, with capacities from 15-32 in. to 3-in., including $\frac{1}{4}$ to $2\frac{1}{2}$ -in. pipe sizes.

Our rapidly operating Aero Chucks

will increase your production from thirty to fifty per cent in the machining of various brass and iron castings.

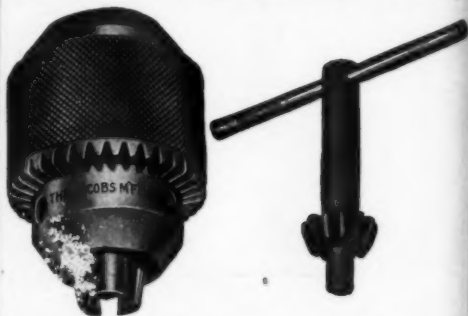
For further information ask your dealer or write us direct.

Manufacturers Equipment Co.

171 N. Jefferson St., Chicago, Ill.

We are also Builders of Air Countershafts, and Special Cost Reducing Tools for manufacturing Brass and Iron Goods.

It Has Made Good



Convenience and Efficiency

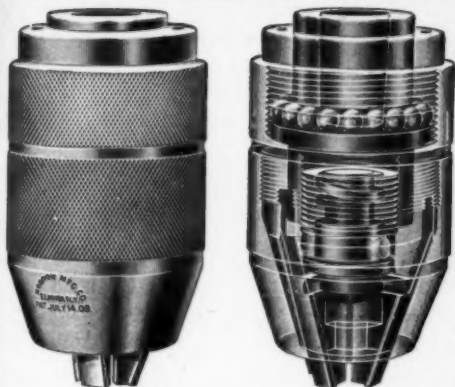
have sold upwards of 150,000 Jacobs Improved Drill Chucks. The complementary merits, accuracy and durability, satisfy buyers—bring repeat orders. The unanimous approval of the users of Jacobs Chucks is proof of a superiority you cannot afford to overlook. It has solved others' Drill Chuck problems, saving both time and trouble. It will bring the same relief and economy to you, if you give it a trial. Write for our 34 Page Booklet H, showing Chuck illustrations, actual size. Select the size you need, Order one from your local dealer, or from us, and use it. You will be grateful to us for the suggestion.

The booklet is interesting, it is free, and you incur no obligation in asking for it.

Now is a good time to write

The Jacobs Manufacturing Company

32 Union Place, Hartford, Conn., U. S. A.



Chucking Time In Your Shop

Have you ever timed it? How much time do your workmen waste looking for a misplaced key? When you are paying skilled labor by the hour or even by the piece it's worth while eliminating this waste.

The Morrow is a hand operated drill chuck quick to adjust, quick to tighten and quick to release. A simple turn of the wrist is all that's needed.

The action of the jaws is quick and positive. No force or strain can make them give way. The action is automatic, the greater the strain the tighter the hold. Yet an easy twist of the wrist gives an instant release.

*Let us tell you what it is doing for others
and what it can do for you.*

Manufactured by
Morrow Manufacturing Co.
Elmira, N. Y.



JUNK

**Men do not get the caps
Of Tucker's Positive Lock
Compression Grease Cups
They Won't Jar Off**

For Automobiles and all kinds of machinery having excessive vibration. Cup member has internally milled threads to gauge limits, ensuring interchangeability. We are prepared to furnish the cup part in pressed sheet brass in the following sizes:

$\frac{3}{4}$ in., 1 in., and $1\frac{1}{2}$ in., all 24 pitch thread.

Complete Cups	{	No. 000	{	$\frac{3}{4}$ in. pipe shank
		No. 00		1 in. pipe shank
		No. 0		$1\frac{1}{2}$ in. pipe shank

PATENTED JANUARY 11, 1910

Tucker's Oil Hole Covers

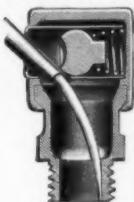


Style C, Self Closing

No. 5 Style B



Self Closing



Note the indent of ball valve on styles B & C



Send for Catalogue of full line of Covers
for all kinds of machinery having oil holes

W. C. & F. C. Tucker, Hartford, Conn.

RELIANCE ADJUSTABLE SPEED MOTOR



This motor offers a method of speed control which is simple, convenient, accurate, efficient.

Simplicity:

The motor is just as simple to install and operate as any constant speed motor. The speed changes are obtained by a simple mechanical method which consists in shifting the motor armature—no electrical controller is needed.

Convenience:

The hand wheel for speed control can be placed convenient to the operator so that any change in material or the nature of the work can be met quickly and easily by a corresponding change in speed.

Accuracy:

Greater ranges are possible with the Reliance method than with any other. The running speeds within the range of the motor are unlimited. There is no running just above or below the speed that will produce the best results, as the speed can be accurately adjusted to the exact point desired.

Efficiency:

With Reliance motors the power is delivered right at the machine where needed, and heavy overloads can be carried for short periods. The right speed without current loss can be obtained for any operation on any kind of work.

Our Folder 10-L tells in detail about the advantages of Reliance Motors and explains why they will make your machines turn out more work. Ask us to send a copy.

RELIANCE ELECTRIC & ENGINEERING CO.
1050 IVANHOE RD. • CLEVELAND, O.

The Best Collector For Hard, Heavy Dust

In the Morse "Rarefied" the dust is discharged before the air current reaches the fan

Operated on the partial vacuum or "rarefied" principle, the dust is discharged automatically, and all abrasion of fan parts by hard, grinding dust is eliminated. Hence, repairs are kept down to minimum, and long life of collector assured.

No Cleaning Out By Hand

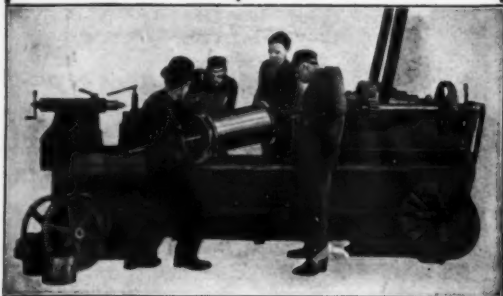
is necessary, and there is no cloth or screen to fill up. The Morse gives thorough efficiency with low cost of upkeep. Requires but little attention.

*Send for free Booklet and note the
Why's and Wherefores. Address*

**The Knickerbocker Co.,
Jackson, Mich.**



Does This Exist in YOUR SHOP?



If so, it's time to investigate

**YOU
can
STOP
this
useless
expense
by
ordering
the
"Handy
Tool"**



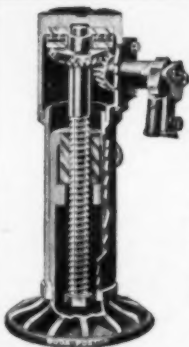
**It will
save YOU
Time
Money
Labor
Drudgery
and
Accidents**

**Better write for
booklet "E-8"**

"The Handiest Tool in the Shop"

Portable Floor Crane and Hoist

**The Canton Foundry & Machine Co.
Canton, Ohio**



Ball Bearing Jacks **Buda "Postop"** (With Positive Stop)

In addition to their ball bearings, confined in a perforated bronze cage, they are of equally superior construction throughout.

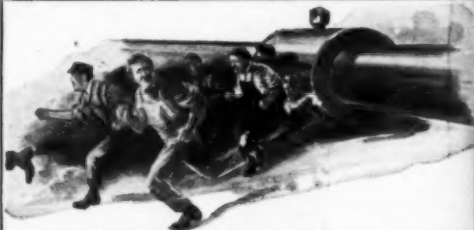
All gears are cut by special tools from solid steel and case hardened. The bearing nut, made of a special bronze, will not crush down under heavy load and tighten about main screw.

Being proof against dirt and weather, they are peculiarly adapted to railroad and other heavy out-of-door service.

Write for Catalogue

Don't use inferior jacks, which are unsatisfactory and dangerous, when Buda "Postops" cost no more.

The Buda Company, Chicago



DON'T RUN AWAY from your set screw troubles. Stay, and rectify them with the

Allen Safety Set Screw

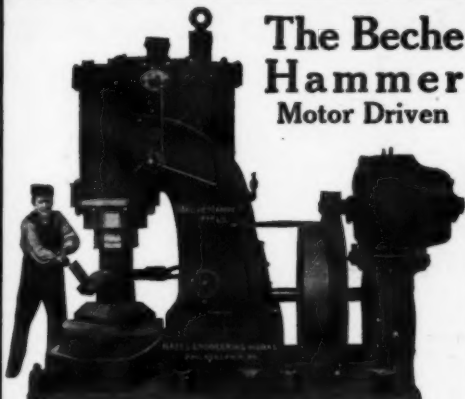
It is a **new** screw—a **safe** screw—and a **guaranteed** one. Insist that your dealer gives you the **ALLEN**.

We Make a Large Line of Safety Lathe Dog Screws

Ask for booklet No. 13

The Allen Mfg. Co., Inc., Hartford, Conn.
Canadian factory, 29 St. Davids Lane, Montreal, Canada.

The Beche Hammer Motor Driven



**The Heaviest, Most Powerful, Efficient
and Economical Hammer of Its
Size on the Market.**

*Hammer and Compressor Combined, No Piston
Rods, Springs, Straps or Cushions.*

Simple—Durable—Reliable

Powerful, non-bounding, squeezing blow. Positive, flexible control. Long stroke. Variable blows at will. No adjustments. Dies at any angle. Belt drive, no countershaft. Motor drive, geared direct.

Sizes and Normal Capacities of Beche Hammers

66 lb.	165 lb.	250 lb.	350 lb.	500 lb.	770 lb.
2" dia.	4" dia.	5" dia.	7" dia.	8" dia.	9" dia.

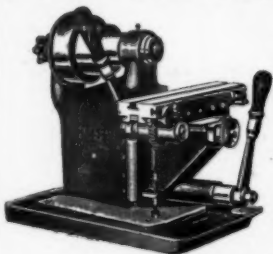
Write for Catalogue and Prices

Nazel Engineering & Machine Works

Sole Builders for United States and Canada

5th and Luzerne Sts. - - Philadelphia, Pa.

Just The Machine



for those light cuts on details for Fire-arms, Sewing Machines, Typewriters, Bicycles, Electrical work, and a thousand and one other details used in the manufacture of the various products of the manufacturing world.

Send for descriptive circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

AGENTS—Marshall & Huschart Mehry. Co., Chicago, St. Louis, Indianapolis; Mott & Merryweather Mehry. Co., Cleveland, Detroit, Cincinnati, Pittsburg.



**Handles
From
Steel**

Ball Crank, Compound Rest, Two-Ball Lever and Machine Handles, for Power Tools and Similar Purposes

Manufactured as a specialty, to sell for less than cast iron or forged handles can be made for. They are accurate, highly finished and ready to attach.

Write for catalog, prices and discounts

The Cincinnati Ball Crank Co.
1245 Plum Street, Cincinnati, Ohio



Here Is A Babbitt Melter!

A very useful Machine Shop Accessory



This Babbitt Melter is built for the purpose. Can be supplied for bench as shown in illustration, or with legs to be placed on the floor.

Is very economical in gas consumption.

No shop complete without one

Price No. 1, Capacity 200 lbs., \$25.00

" No. 2, " 50 lbs., 12.00

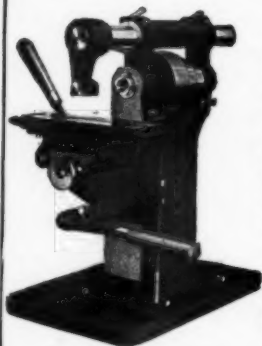
Legs for either size - - - - 3.00

Net F. O. B. Rochester

The W. P. Davis Machine Co.

Builders of Lathes, Chucking Machines and Keyseaters
Rochester, N. Y.

Burke's Bench Miller



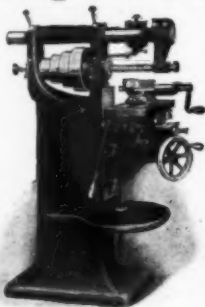
A Seasoned Tool

The tool to buy if you want extreme accuracy and permanent alignment five years hence as well as now. In making this miller the greatest care is taken thoroughly to season all castings both before and after machining. We carry these frames and parts from six to eight months after work begins on them before the final finishing is done. The result is a tool that is accurate and will stay accurate as long as you use it. For precision work it has no equal.

Longitudinal feed, 6 in.;
transverse feed, $3\frac{1}{2}$ in.; vertical
motion of knee $8\frac{1}{2}$ in.;
table surface, $3\frac{1}{2} \times 12$ inch.

Burke Mche. Tool Co.
Conneaut, Ohio

Step toe Hand Miller



The milling of small parts for automobiles, typewriters, guns, sewing machines, cash registers, and work of a similar nature, can be done quicker on a "Step toe" Hand Miller than on any other Machine. It is a heavy tool, capable of taking a good heavy cut with accuracy. Manufactured with lever and screw elevation of the table, and with three or four-step cone pulley. We will gladly send our description.

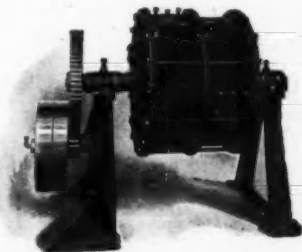
The John Steptoe Shaper Co.
Station B, Cincinnati, Ohio

One Man

Can take care of several barrels, and

One Barrel

Takes the place of several men, saving from
75 to 99 cents on the dollar.



The Abbott Burnishing Barrel

**For the uniform and perfect polishing of small steel,
brass, copper, tinned, nicked, silver or gold articles**

The Abbott Barrel being narrow and of large diameter, when in operation and filled half full of Steel Balls, causes these several hundred pounds of Balls to continually work into a high pile, which, sliding down, creates weight and friction on the work. Each Ball becomes an individual burnishing tool, and there are several hundred thousand of these tools all working at once. This is Steel Ball Burnishing.

We are the originators of commercial Burnishing by means of Steel Balls, and have been sending Abbott Barrels and Abbott Steel Burnishing Balls to responsible concerns on approval for over three years—and in most cases we receive a check before the expiration of the approval time.

*Glad to mail you our booklet on Burnishing or Buffing
Also to burnish samples, if you'll send them along*

The Abbott Ball Co.

Elmwood District,

Hartford, Conn.

Light or Heavy Blow



Elastic Rotary
Blow Riveter

as the work requires, allowing parts to swivel or filling a countersink.

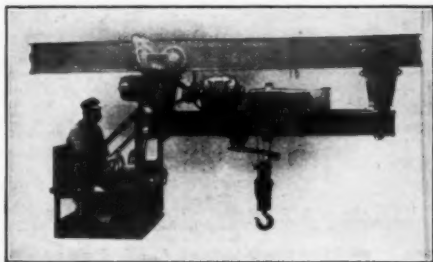
No bent or broken rivets, and no torn heads and the machine heads the rivets as fast as the operator supplies them. You don't have to stop every little while to clean off deposits.

Samples riveted if you wish.

The F. B. Shuster Co.
New Haven, Conn.
(Formerly John Adt & Son. Est. 1886.)

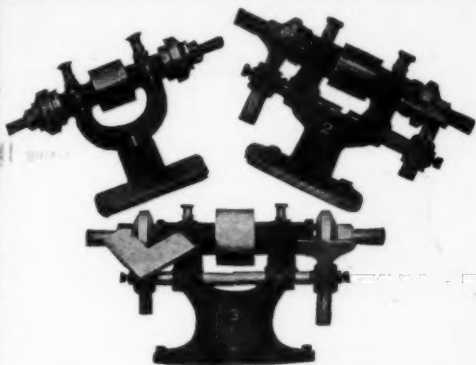
Straighteners and Cutters for rounds, squares, hexagons, etc., Helix Coilers, Automatic Formers for cotter pins, etc.

Mono Rail Hoists and Over Head Track Systems



A 5-ton hoist operated from cab or floor for transferring material from one building to another, unloading cars, general yard work, etc. Mono Rail Hoists and trolleys of all types. Nothing too large or too small for our careful, prompt attention.

The Euclid Crane & Hoist Company
Euclid, Ohio



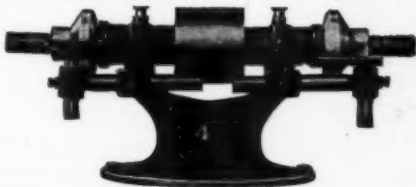
Emery Grinders

Better Ones for Your Money

They look like others, but are different in details of design and construction. Built like machine tools, with the arbors and collars accurately turned and balanced, and properly lubricated and protected against dust. They run easier, last longer and give better service. Made in quantities sufficient to keep down manufacturing costs, and the price. I can interest you in Bench, Column, and Cabinet Grinders, Foot Presses and Bench Tapping Machines. *Write me.*

E. O. PARTRIDGE

2047-9 Lake Street, - - CHICAGO



You Buy Less Oil

When there's a Curtis on the Job



No. 400—Capacity: 2 Bushels

The Curtis—a sturdy, ball bearing oil extractor—automatically reduces oil bills wherever employed. Using the oil over and over again makes a barrel last a good while longer than formerly, and in a few months' time the cost of the machine is returned to you. Why not stop wasting oil now, while you have it in mind?

Details and prices of our three sizes are ready. Write

ALBERT B. CURTIS

25 Union St., Worcester, Mass.



The Machine That Lowered the Cost of Riveting

Grant Noiseless Riveting Machine

A boy or girl at \$1.00 a day is all that is required to operate the machine with perfect success.

The machine will do better work and much more rapidly than can be done by any other machine on the market.

We invite you to send us samples of your work, which we shall rivet and return to you, giving estimate of output and any other information you may desire.

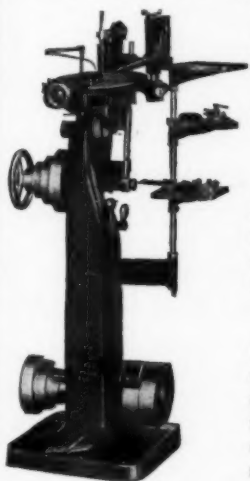
Send for catalog which shows several different sizes and styles of machines for different requirements

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

Much Hand Work Saved

By the Cochrane-Bly Filing Machine

AFTER SEVERAL YEARS of study and experimenting we perfected this great labor saver. It does



excellent work on dies, metal patterns, jigs, and in finishing small tools. The filing is more accurate than that done by hand.

The work may be fed to the files by means of a screw feed. Using hack saws, dies may be sawed out, leaving but little filing to finish.

Hundreds of well known manufacturers are operating our Filing Machines, and a number of them have several; Uncle Sam uses them in his arsenals.

*Send for booklet and see how well you
could use this modern cost reducer*

Cochrane-Bly Company

Rochester, N. Y., U. S. A.

Also Cold Saws and Automatic Cold Saw Sharpeners

Pattern Shop Machinery

Special Prices if you refer to this ad.



Band Saws

Chicago No. 00 27 in. Wheels
 " No. 0 32 " "
 " No. 1 36 " "



Saw Tables

Chicago No. 5 Stationary Table
 " No. 9 Tiling Table
 " No. 10

Boring attachment if wanted.



Jointers

8 in., 5 and 6 ft. tables and guard.
 12, 16, 20, 24 and 30 in., 7 ft. tables
 and guard.

Trimmers, Lathes, Core Box Tools, etc.

Ask for full descriptions

Chicago Machinery Exchange

1214-1228 Washington Boulevard Chicago

Sweetland Lathe Chucks



The latest improved chucks for all purposes—universal, combination, independent and geared scroll; also special chucks in all sizes, with two to eight jaws.

The Geared Scroll Chuck shown in illustration is becoming very popular. It requires no extra set of jaws, to be mislaid. Made with either three or four jaws.

**Write for Catalog
 and Price List**

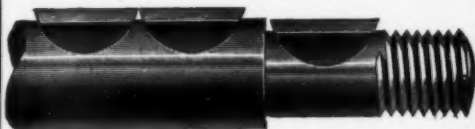
Geared Scroll Chuck with Solid Reversible Jaw

The Hoggson & Pettis Manufacturing Co.

P. O. Box 123

New Haven, Conn.

"Whitney" Keys and Cutters For **"The Woodruff System of Keying"**



No. 16 CUTTER FULL SIZE

"Whitney" Keys are made in 114 different sizes and in three grades as follows:

Regular Carbon Steel Keys
Regular Carbon Steel Keys Case Hardened
Nickel Steel Keys Heat Treated

"Whitney" Cutters are furnished in both Carbon Steel and High Speed Steel, so no matter what your requirements, you will find in our line exactly the Key and Cutter to meet your particular conditions.

Catalog No. 10 Gives Full Particulars.

The Whitney Manufacturing Co.,
Hartford, Conn.

Manufacturers of Hand Millers, High Grade Driving Chains, Water
Tool Grinders, "The Woodruff System of Keying," Presto
Chucks and Friction Tapping Devices.



Are You Tired of Paying Big Bills for High Speed Steel?

ARMSTRONG TOOL HOLDERS

Make 1 lb. of Tool Steel go as far as 10 lbs. in Forged Lathe and Planer Tools.

Write for catalog—It tells other advantages

Armstrong Bros. Tool Co., 308 N. Francisco Ave.
CHICAGO.



A Simple Boring Bar

Rigid, Where Rigidity Counts

Red-E Boring Bar and Internal Threading Tool

The cutter is held solid with bar by a sliding wedge which supports cutter full length, right up to point. Action of the wedge is simple—a V shaped notch is cut in, and the sliding rod forced forward by set screw in back, crowding the wedge forward by cam motion. Cutter is easily removed for sharpening. The internal threading bar has cutter on one end. Cutter can be replaced at very small cost. Holder made in two sizes.



Price, complete with threading bar:

No. M-1, Size $1\frac{1}{2} \times 11$ \$4.20. No. M-2, Size $1\frac{3}{4} \times 11$ \$4.20.

THE READY TOOL CO., Bridgeport, Conn.

Experienced Men Know

The economy of good tools



THAT'S WHY we ask you to size up the *Eberhardt* and note the service and satisfaction embodied in this turning tool.

We have made it our business to put the greatest strength where there is the most strain. In shape and design it appeals to the practical man.

Top, bottom and sides of holder are square, with each other. The hole for the high speed cutter is also square and the cutter fits so that when locked in place with the tool steel set screw, it is as solid as a forged tool. Set screws are made of tool steel nicely hardened, and do not upset on the end by constant use and abuse.

For strength, for accuracy, for convenience and real economy, the *Eberhardt* is the *one* turning tool to have. A trial will convince you that you need as many as you can use.

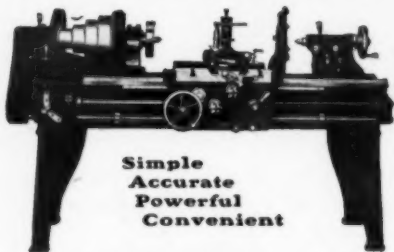
We make a complete line. Write for catalog.

Union Caliper Company

Orange, Mass.



Standard Engine Lathes



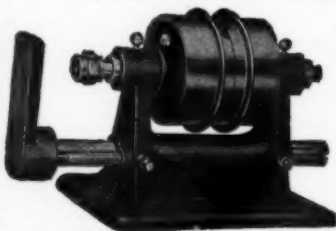
**Simple
Accurate
Powerful
Convenient**

Furnished with either standard cone or with 3-step cone double-back-geared, **carrying a wide belt**, with 18 spindle speeds and wide feed range.

GREAVES, HLUSMAN & CO.
Cincinnati, Ohio, U. S. A.

Burke's Tapping Machines

Are Rapid, Accurate and Convenient

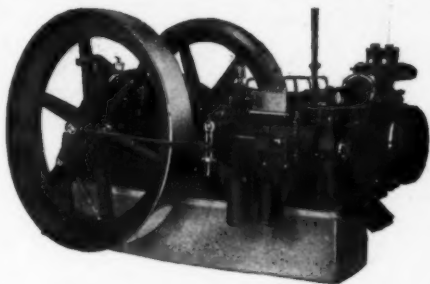


**Made in
several
sizes
for
tapping
up to
1/2-inch**

These tappers are built throughout with a good deal more than usual care, and you will be glad to know about them. If you will mail us your address, we shall be pleased to send full description and quote close prices.

The Burke Machine Tool Co.
Conneaut, Ohio

Elyria Oil Engine, 25 to 150 H. P.



If We're Willing

to install our engine in your plant, at our expense, and take our pay out of what it saves in the first year or two, it means that you can put an equal saving in your pocket every year or two thereafter.

We take all the risk for a single profit, and wait for that. You take no risk, and effect a spot cash saving, equal to the cost of the engine, over and over again, while securing for your plant an even, continuous power service.

Our proposition is that if you are now using an average steam engine, central station electric service, or city gas, and if our engine fits your needs, we will install it at our expense and take our pay out of the savings.

*If interested, advise us your present power cost,
and price of the cheapest fuel oil in your market.*

The Elyria Gas Power Co.
Elyria, Ohio

Also builders of "The Little BIG ENGINE" for Natural & Producer Gas



Equip your Punch Presses with Durant Counters

Know exactly the product of every one of your machines. Cut out annoying short counts and wasteful over-runs. Know the efficiency of your operators—weed out the lazy ones.

Catalog 15 describes a counter for every shop-count problem. Submit yours to us and we'll send the right machine on 30 Days' Free Trial.

THE W. N. DURANT CO., Milwaukee, Wis.

**If You Want to Buy or Sell
Second-Hand Machinery
Or if you have any for sale**

Ask

**Buffalo Tool & Supply Co.
15 W. Swan St., Buffalo, N. Y.,**

What they can do for you.

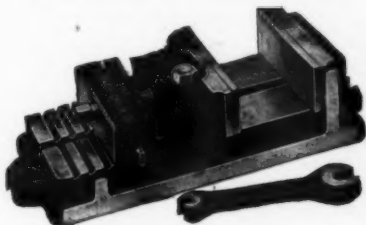
They are equipped to make it interesting.

ANOTHER SIZE Drill-Press-Vise (7½-in.) Added to our line

We now have three sizes of these Vises for immediate delivery.

As many as sixteen (16) are in use in a single plant.

Have you tried them?



Size No.	Width Jaw, Inches	Depth Jaw, Inches	Jaws Open, Inches	Approx. Ship. Weight, Lbs.	Space required, Inches
4½	4½	2	5	37	14x5½
5½	5½	2	6	43	15x6
7½	7½	2½	9	98	19½x9

The Skinner Vise Co.

Factory: - - - New Britain, Conn.

New York Office: - - 94 Reade St.

USED MACHINERY

Sold and Bought

**We carry the largest
Stock
in the Central States.**

Hill, Clarke & Co. of Chicago
125 North Canal Street

**In revising our manufacturing equipment, we
find the following first class Used Machine Tools,
which we offer at attractive prices:**

ENGINE LATHES

16x 6 Lodge & Shipley, q. c. g.
16x 6 Hendey, q. c. g.
16x 8 Reed
16x 8 Lodge & Shipley, q. c. g.
20x 8 Lodge & Shipley, q. c. g.
20x10 Lodge & Shipley, q. c. g.
24x 8 Lodge & Shipley, q. c. g.
25x13 Sellers.
36x12 Lodg. & Shipley, q. c. g.

SPECIAL LATHES

24 in. x 7 ft. Lodge & Shipley
Chuckling Lathe.
No. 3 Lodge & Shipley Rapid
Reduction Lathe

METAL SAWS

No. 3 Nutter-Barnes Cold Saw
Franklin Cold Saw, 32 in. Cap.
Globe Power Hack Saw, 8 in.
Capacity.

MISCELLANEOUS

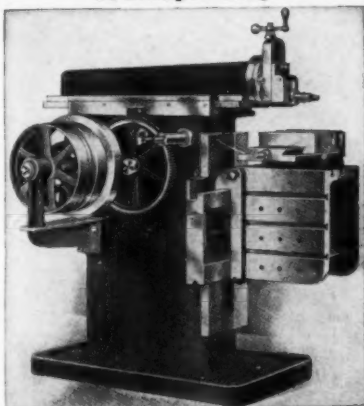
12x40 in. Mumford Molding Machine.
24 in. Aurora Upright Drill, Sliding Head.

*Write for complete description with prices of machines
in which you are interested*

The Lodge & Shipley Machine Tool Co.
CINCINNATI, OHIO, U. S. A.

Second Hand Machinery Bargains

A Sample Only



20 in. Hendey Friction Shaper, with Tilting Table, Excellent Condition.

Bolt cutter, 1 1/2" National, double head.
 Boring machine, horizontal, No. 1 Cleveland.
 Boring mill, 37" Niles, two swivel heads.
 Boring mill, 52" Rogers & Hemphill, two swivel heads.
 Drills, 20" upright, Barnes, Mechanics, etc.
 Drills, 24" sliding head, Mechanics, Davis & Egan, Barnes, etc.
 Drills, upright, sliding head, 28" Rockford, 30" Snyder, 32" Hamilton, tapping; 34" Lodge & Davis.
 Gear hobber, No. 1 Adams Farwell.
 Gear cutters, 4-spindle Norris; 36" Gould & Eberhardt, spur.
 Grinder, ring, Heald; 18" Besly, duplex disc.
 Grinder, universal, 16"x34" Thompson.
 Grinding planer, vertical, Springfield Brandes.
 Hammer, steam, 1500 lb. Pittsburg.
 Lathes, very large stock, from 7" to 84" swing, all makes.
 Miller, No. 3 Owen, plain; No. 4 Cincinnati, universal.
 Miller, vertical, No. 4B Becker-Brainerd.
 Pipe machines, 6" Jarecki, 8" Eaton, Cole & Burnham.
 Planer, 30"x30"x10" Gleason.
 Planer, 30"x38"x12" New Haven.
 Radials, 4' and 5' Bickford.
 Radial, universal, 5' Davis & Egan.
 Shaper, crank, 14" Rockford.
 Turret lathes, heavy, 21" and 25" Gisholt.

We have immense stock new and second hand machines.

Write us for what you need. Send for complete list second-hand machinery.

Marshall & Huschart Machinery Company

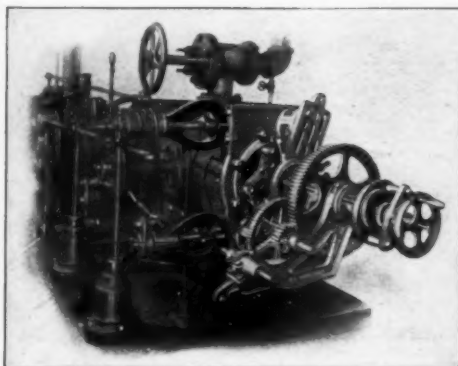
17 S. Jefferson St., Chicago.

334 N. Capitol Ave., Indianapolis.

925 Chemical Bldg., St. Louis.

Lowers Reboring Costs

This accurate portable tool makes quick repairs possible—saves time and money on many jobs



Portable Bar Boring Corliss Engine Cylinder (With only one head off)

It bores all kinds all kinds of engines, steam hammers, pumps, air compressors, Corliss valve seats, etc., *in place*. Cylinders are often rebored in place in less time than it would take to remove them, leaving all connections and bolts intact.

This tool has fixtures for boring in any position, and in very cramped places, being readily operated in a space which allows the taking of the piston out of the cylinder. We make special sizes for special work.

Many railroad and general repair shops are now saving money with our Portable Tools. Why not investigate and see how well you could use one? Catalog for the asking.

H. B. Underwood & Company
1022 Buttonwood St., Philadelphia, Pa.

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

The Cincinnati Iron & Steel Co.,

Cincinnati, Ohio

Quick action sale of new tools:

POWER BRAKE.

12 ga., 10' Dreis & Krump power brake, weight 6,400 lbs., price.....\$ 450.

BENDING ROLL.

5" hand power bending roll, 50" long, capacity $\frac{1}{2}$, price.....\$ 100.

These prices are 30 percent below regular selling prices.

FOR SALE BY

The Portsmouth Engine Co.,

Portsmouth, Ohio

BORING MILL.

One 72-in. vertical boring mill, with five-step cone pulley and back gear, heavy 5-in. vertical boring spindle, with power feed of 20-in.; countershaft drive. Floor space 10 $\frac{1}{2}$ ft.x8 ft. In excellent working order. Price: \$550.

PLANER.

One 36-in. planer, 9 ft. bed. L. W. Pond Machine Company's make; single tool post and power feed; countershaft for belt drive. In excellent working order. Price: \$800.

FOR SALE BY

Frances,

Newark, N. J.

MACHINE SHOP.

For sale or rent, an up-to-date brass and steel machine shop, completely equipped, now running, including established business of \$40,000 annually. New building, single story, concrete; 10,000 square feet; splendid power plant; fronts two paved streets; Newark factory district; large plot. Will sell land and business at invoice value, \$63,500, or rent whole outfit, machinery, etc., for term of years.

FOR SALE BY

W. L. Perkins Machinery Co.

30 Church St., New York

LATHES.

12"x 5' Standard. c. r., hollow spdl.

14"x 6' Standard. c. r., hollow spdl.

16"x 8' Standard. c. r., hollow spdl.

22"x 10' Harrington, compound rest.

28"x 16' New Haven, c. r., hol. spdl.

30"x 18' Niles, compound rest.

42"x 12' Harrington, triple geared.

42" Niles car wheel lathe.

PLANERS.

17"x 17"x 22" Miles.

20"x 20"x 36" New Haven.

26"x 26"x 6' Putnam

32"x 32"x 8' Pond, double head.

SHAPERS.

36" Fellows gear shaper.

14" Walcott.

24" Gould & Eberhardt.

12" Juengst.

MILLING MACHINES.

No. 2 Van Norman, duplex.

No. 26 Becker-Brainerd, plain.

SECOND-HAND MACHINERY

FOR SALE BY

Joseph T. Ryerson & Son, • 16th and Rockwell Sts., Chicago

POWER PUNCHES.

- Item.
H287 Cleveland 90 in. mul. punch, cap. thirty 13-16 in. holes in $\frac{1}{2}$ in.
H638 Kraut steel plate double end 24 in. punch, capacity 1x1 in.

PLANERS.

- H163 Sellers, 36x36x7, 1 head; belt drive.
H167 Sellers, 42x42x8 $\frac{1}{2}$, 2 heads; belt drive.
H169 Sellers, 42x42x8 $\frac{1}{2}$, 2 heads; belt drive.

LATHES.

- H793 Prentice 9x4 hollow spindle, compound rest, chuck.
H767 11x3 $\frac{1}{2}$ speed lathe, turret slide, cut-off slide.
H902 Bradford 14x6 hollow spindle, compound rest, chuck.
H804 LeBlond 14x8 hollow spindle, compound rest.
H887 American 15x6, q. c. g., taper attachment, c. r.
H848 Porter 16x6, plain rest, chuck.
H954 American 18x8, q. c. g., hollow spindle, compound rest, taper attach.
H881 Rahn-Carpenter 20-26x12 gap lathe, compound rest.
H859 Flather 24x10, q. c. g., hollow spindle, compound rest, chuck.
H838 Putman 32x16, solid spindle, compound rest.
H882 New Haven 60 in. pulley lathe, raised to 72 in.
H720 Jones & Lamson 2x24 turret lathe.
H744 Springfield Fox 18x6, turret on bed.
H953 Gisholt 20 in. turret, 2 in. hole in spindle.
H914 Conradson 24-32 turret lathe.

DRILLS.

- H879 Cincinnati, 28 in., tapping attachment.
H892 Cincinnati 20 in. singe geared, lever feed.
H832 Dwight-Slate 4 spindle sensitive.
H516 Barnes, 26 in. adjustable head.
H610 Dallett No. 3, portable rope drive.
H517 Snyder, 25 in. adjustable head.
H864 Quint 6 spindle turret head.

SHAPERS.

- H511 Hendey 15 in. friction. | H900 Averbek 20 in. crank.
H512 Smith & Mills 15 in. crank. | H839 Cincinnati 24 in. crank.

PNEUMATIC TOOLS.

- H605 Albree toggle, 26 in. reach, capacity 1 in. rivets.
H909 Blaisdell 10-16x10 cross compound compressor, belt drive.
H857 Allen riveter, 25 in. reach, 15 in. gap, capacity 1 $\frac{1}{2}$ in. rivet.

MILLING MACHINES.

- H665 Ingersoll, slab 36x36x8, | H782 Cincinnati No. 2 plain.
H636 Garvin No. 4 plain, 3 feeds. | H737 Kempsmith No. 2 plain.
H658 Lincoln type, 6x26 in.

MISCELLANEOUS.

- H213 Boring and drilling machine, horizontal, 4x27x60 in., Beaman & Smith.
H827 Crane, hand power, 5 ton capacity, 18 ft. span.
H811 Cutter and reamer grinder, No. 3 Brown & Sharpe.
H672 Cutting-off machine, 3 in. Hurlburt & Rogers.
H913 Cut-off saw, No. 3-B., capacity 20 in. beams.
H889 Drill grinder, Yankee, style B.
H883 Floor crane, 2 ton capacity, Canton.
H951 Flue welder, Hartz roller, capacity 4 in.
H893 Gear cutter, 36 in. Brainard, full universal.
H812 Grinder, No. 1 Landis universal, range 9x24.
H837 Keyseater, No. 0 Colborn.
H884 Pipe cutter, Oster No. 204A, capacity 4 in.
H208 Profiling machine, No. 2 Pratt & Whitney.
H952 Saw grinder, 20 in. Higley.
H647 Screw machine, hand, $\frac{1}{2}$ in. Pratt & Whitney.
H623 Tapping machine, No. 1 Garvin automatic.

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Wormer Mach'ry Co., 94-96 W. Woodbridge St., Detroit, Mich.

Send for our No. 96 Catalog.

ENGINE LATHES.

14" x 6' American.	26" x 22' Fifield.
16" x 6' Le Blond.	26" x 16' Schumacher & Boye
16" x 6' Porter.	28" x 10' Hamilton.
16" x 8' Blaisdell.	28" x 12' New Haven.
18" x 6' Lodge & Davis.	30" x 14' Prentiss.
18" x 7' New Haven.	30" x 14' Fifield.
18" x 8' Whitcomb.	28" x 14' New Haven, new.
18" x 9' New Haven.	16" x 10' Hamilton, new.
19" x 6' Pond.	16" x 6' Hamilton, new.
21" x 11' Lodge & Davis.	14" x 8' Hamilton, new.
22" x 8' Fifield.	14" x 8' Bradford, new.
22" x 10' Niles.	18" x 10' Bradford, new.
22" x 16' Putnam.	18" x 8' Bradford, new.

GRINDERS.

No. 24 Landis crank grinder.	No. 164 Wells cutter & reamer grind.
No. 210 Heald ring grinder.	No. 1 G & E. gear cutter grinder.

PRESSES.

No. 141½ Stiles & Parker, sq. horn.	No. 119 o. b. press, inclined, standard.
No. 31 Toledo power press.	No. 53 Fowler flywheel press.
No. 2 Crosby o. b. press.	No. 30-A model B Perkins, o. b. i.
No. 5 Eaton o. b.	No. 7 L. & A. single end punch press.

DRILL PRESSES.

31' semi-universal radial.	28" Snyder vertical.
36" Prentiss vertical.	31" Barnes vertical.
17" Barnes 3-spindle.	14" Woodward & Rogers 4-spindle.
14" Gardam 4-spindle.	12" Woodward & Rogers 3-spindle.
12" Industrial 3-spindle.	16½" Fox 3-spindle.
6-spd. Fox sensitive.	4-spd. Pratt & Whitney gang.
20" Prentiss vertical.	20" Barnes 2-spindle.

MILLING MACHINES.

No. 1½ Grand Rapids plain bk. gd.	No. 1 Grand Rapids plain.
No. 0 LeBlond plain.	No. 1½ Hendy-Norton plain bk. gd.
No. 2 Cincinnati plain back geared.	No. 7 Brainerd, Lincoln type.
No. 2 Davis & Egan plain.	No. 3 Garvin hand miller.

TURRET MACHINES.

16" x 5' 8" Bardons & Oliver.	16" x 6' American Fox.
16" x 5' universal plain head Fox.	18" Bardons & Oliver, plain head.
22" Gisholt.	24" Gisholt.
24" Davis.	Libbey full swing turret lathe.

SCREW MACHINES.

3" Cleveland.	4" Cleveland.
3" Cleveland.	No. 3 Hartford automatic.
No. 3 Pratt & Whitney, plain head.	No. 1 Hartford automatic.
No. 0 Brown & Sharpe, plain head.	No. 2 Hartford automatic.
No. 13 Garvin, plain head.	No. 2 Brown & Sharpe automatic.
No. 2 B. & S. semi-automatic.	No. 1 Pratt & Whitney.

SPECIAL LATHES.

32" x 36" Stevens, 2-side facing	60" x 28" Stevens.
48" x 2½" double end pulley lathe.	7" x 31" Stark bench lathe.
28" x 8' metal spinning lathe.	No. 6 Bliss spinning lathe.
3" x 36" Jones & Lamson.	20" x 7' Lodge & Davis, chucking.

PLANERS.

20" x 20" x 4' Wheeler.	20" x 19" x 4' New Haven.
24" x 24" x 6' Hendy.	24" x 26" x 6' New Haven.
28" x 28" x 6' Pond.	26" x 26" x 6' Wheeler.
30" x 30" x 14" Niles.	31" x 31" x 9' 9" Brettell.
17" x 17" x 4' Whitcomb.	42" x 42" x 10' Gleason.
42" x 42" x 12' Fitchburg.	17" x 14" x 3' 6" crank planer.

MISCELLANEOUS.

Boring mill, vert., 37" Baush & H.	Gear cutters, Newark. (2).
Keyseaters, Mitts & M., 7" and 13".	Gear shaper, 36" Fellows.
Keyseater, No. 1 Davis, 4".	Shaper, 24" Lodge & Davis.

SECOND-HAND MACHINERY

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., Cleveland, Ohio
Branches: Detroit, Cincinnati, Pittsburg.

Below we give a partial list of machinery in stock. Our illustrated October issue of "Machine Tools" giving a complete description of our stock may be had for the asking.

BORING MILLS.

- 30" Bullard, swivel turret head.
- 72" Pond, very good condition.
- 24" bar Binsse horizontal boring machine, good as new.
- 4" bar Bement-Miles horizontal, very good condition.
- No. 0 Detrick & Harvey floor boring mach., with universal table, first class

DRILL PRESSES.

- | | |
|------------------------------------|---|
| 15" Barnes, stationary head. | 50" Fifield, old pattern, sliding hd. |
| 20" Aurora, wheel and lever feed. | 4-spindle Pratt & Whitney, sensitive |
| 20" Barnes, back gd., very good. | Single sp. 12 in. sensitive, first class. |
| 21" Hoeter, very good. | 4-spindle Garvin geared, very good |
| 21" Bickford, sliding head. | 6-spindle Quint turret, first class. |
| 28" Rockord, sl. hd., good as new. | 8-spindle Gardam, good, belt drive. |
| 32" Pond, old type, good. | |

DRILLS—RADIAL.

- 42" Alfred Box, half universal, very good.
- 42" Niles round column, half universal, very good.
- 4" Fosdick, with 5 ft. arm, tapping attachment, first class, gear box drive.
- 5 ft. Pond (2), in very good condition.

GRINDERS.

- No. 60 Heald cylinder grinder, (2), first class.
- Heald, Yankee, American and Buckeye drill grinders.
- Gisholt tool grinder, first class.
- Double wheel heavy foundry grinder, new.
- Double wheel, for 24" wheels, stand.
- 10"x66" Landis, with crank shaft attachment, first class.
- 10"x66" Landis, plain, very good.
- No. 14 Landis, internal, very good.
- No. 3 Landis, universal, very good.
- No. 3 Landis, plain, very good.
- No. 11 Brown & Sharpe, plain, first class.
- Heald ring grinders, (3), first class.
- 21"x96" Landis universal, in first class condition.
- 18"x96" Norton plain, latest design, first class, arranged for motor drive.

GEAR CUTTERS.

- No. 2 Dwight Slate, capacity 8"x4", 12 d. p.
- 26" Brown & Sharpe, very good condition, (2).
- 48" Gould & Eberhardt, first class condition.
- 64" Gould & Eberhardt, very good condition.
- 40" Flather, first class condition.
- 20"x8"x5' d. p. Rehanania, first class.

HAMMERS.

- 5,000 lbs. Erie steam drop, first class.
- 1,500 lbs. Lane steam drop, first class.

KEYSEATERS.

- No. 3 Davis with cutter bars.
- 18x14 Morton, bars and cutters.

PRESSES.

- No. 75 Toledo geared, first class.
- No. 30 Perkins, inclinable.
- No. 19 Stiles & Parker, inc.
- Waterbury Farrel trimming press, total weight 32,000 lbs.

PLANERS.

- 15" Bush crank planer.
- 22"x22"x4' New Haven, single head.
- 22"x22"x6' Gray, single head, first class.
- 24"x24"x6' Ohio, single head, latest model, first class.
- 24"x24" Powell, single head, good as new.
- 48"x48"x16' Detrick & Harvey, openside, two heads, first class.
- 32"x32"x8' Lodge & Davis, single head, fair.
- 36"x36"x8' Sellers, single head, good.
- 72"x72"x20' Sellers 4-head planer.

SECOND-HAND MACHINERY

The Motch & Merryweather Machinery Co.—Continued.

LATHES.

- 3 Star speed lathes.
 10"x 4' Star, compound rest chuck, good as new.
 14"x 6' Prentice, first class, with chuck.
 14"x 6' Flather quick change gear, with taper attachment and chuck, A. 1.
 14"x 6' Reed rise and fall rest lathe, with chuck, good.
 14"x 6' Flather, plain rest, chucks, good.
 16"x 6' Flather, with taper attachment.
 16"x 8' Fay & Scott, compound rest, very good, (2).
 18"x 8' Walcott & Wood, compound rest, very good condition.
 18"x 8' Lodge & Davis, compound rest, taper attachment, first class.
 18"x 10' Schumacher & Boye, compound rest, chuck, first class.
 22"x 12' Pond, compound rest, chuck, very good.
 22"x 16' Pond, compound rest, good.
 26"x 16' Lodge & Davis, compound rest, chuck, very good.
 26"x 16' Prentice, comp. rest, taper attach., double back geared, first class.
 26"x 16' Fifield, compound rest, chuck, fair condition.
 36"x 16' Pond, with chuck, compound rest, good.
 38"x 26' New Haven, compound rest, chuck jaws, very good condition.
 48"x 34' Niles, triple geared, compound rest, good.
 50"x 18' Fifield, compound rest, triple geared, first class.
 50"x 20' Generd, compound rest, two chucks, good.

MILLING MACHINES.

- No. 2 Cincinnati universal, single pulley drive, almost new.
 No. 3 Garvin, very good.
 24"x 8' Ingersoll slab miller.
 No. 5 B. & S. universal miller, very good.
 No. 2 B. & S. universal, cone drive, complete, first class.
 No. 12 B. & S. Lincoln type, first class.

SHAPERS.

- 13" Hendey, friction, (2), very good.
 16" Cincinnati, back geared crank, first class.
 16" Flather, gear box drive, down feed to head, first class.
 20" Hendey, friction, first class.
 20" single geared Smith & Mills, crank, very good.
 20" Smith & Mills, triple geared crank, good as new.
 20" Queen City, back geared, first class.
 20" Kelly, back geared crank, good as new.
 21" Jungst, back geared crank, very good..
 22" Smith & Mills, belt drive, good as new.
 24" Walcott, shifting belt, fair.
 24" Walcott, shifting belt, old type, (2).
 24" Hendey, friction, old type, very good.
 24" Hendey, later type, very good.
 24" Smith & Mills, latest type, first class.
 26" Lodge & Davis, shifting belt, good.
 26" Cincinnati, shifting belt.
 26" Queen City, back geared crank, good as new.

TURRET LATHES AND SCREW MACHINES

- No. 2 Bardons & Oliver, very good.
 No. 4 Pratt & Whitney, double back geared, fair condition.
 24"x 24" Jones & Lamson, sliding head, very good condition.
 21" Gisholt, old type, very good condition.
 24"x 24" Davis chucking machine, first class.
 24"x 10" Lodge & Shipley screw machine, very good.
 28" Gisholt turret lathe.

MISCELLANEOUS.

- | | |
|--|--|
| Bolt cutter, 1" Wells Bros., good as new. | Pipe machine, 6" Saunders, good as new. |
| Bolt cutter, 1½" Acme, latest type, complete equipment, good as new. | Planer, portable, 40" stroke, Morton, very good. |
| Cold saw, No. 1 Burr. | Punch and shear, hand. |
| Die sinker, No. 2 P. & W., first-class. | Tapper, Pratt & Whitney, good. |
| Pipe machine, 12" Curtis, first-class. | Tirewelding hammer, Williams-W. |
- The above machines are in stock in Cleveland, and may be inspected here.
 We buy none but the best machines—delivery is immediate.

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, 111 Broadway, New York.
Located at Chicago, Boston and New York.

LATHES.

- | | |
|--------------------------------|--|
| 13x6 P. & W., r. & f., taper. | 24x16 Niles, c. r. |
| 14x5 American, brass, Fox att. | 28x12 Pond, compound rest. |
| 14x6 P. & W., c. r. & t. | 30x14 Niles, c. r. |
| 16x8 P. & W., r. & f. | 32x12 Pond, compound rest. |
| 18x6 Blaisdell, r. & fall. | 36x17 Pond, 220 v. motor drive, taper. |
| 18x6 Pond, turret tool post. | 36x18 Niles, c. r. |
| 18x7 Pond, turret tool post. | 36x18 Bement, comp. r., tri. grd. |
| 18x8 Pond, comp. r. | 36x28 Bement, comp. r., tri. grd. |
| 20x4 old style P. & W. | 40x16 Bement, b.g., not screw cutting. |
| 20x10 Flather, c. r. | 42x22 Niles, comp. r., tri. grd. |
| 22x12 Niles, with taper. | 42x32 Putnam, comp. r., tri. grd. |

SCREW MACHINES, TURRET LATHES, ETC.

- | | |
|--|---|
| No. 3, 2 15-16 in. Niles screw mche. | 1/2 in P. & W. automatic screw mach. |
| 2x24 Jones & Lamson. | 1/2 in. P. & W. 2 sp. automatic screw machine. |
| 2x26 P. & W. new model turret. | 1/2 in. Acme old style 4-sp. automatic. |
| 21 in. Gisholt, turret. | 1/2 in. single turret Spender automatic. |
| 24-27 Conradson semi-automatic turret, 2 2-16 in. hol. sp. | 1 1/2 in. Gridley 1-sp. automatic. |
| 26 in. Milwaukee turret, 4 1/2 in. hol. sp. | 21-32 in. No. 2 Brown & Sharpe automatic screw machine. |
| 1/2 in. Hartford automatic pin machine. | |

BORING MACHINES.

- | | |
|--|---|
| 30 in. tur. hd. b. & t. mill, Colburn. | 2 in. sp. Kelly hor. bor. and drill. |
| 50 in. Niles pulley borer. | 3 1/2 in. sp. Bement hor. bor. & drill. |
| 60 in. Bement b. & t. mill, 2 heads. | 96 in. swing x 10 ft. centers bor. & facing; weight: about 43,000 lbs. |
| 72 in. Bement b. & t. mill, 2 heads. | 4 1/2 in. diam. spindle Niles floor boring, drilling and milling machine. |
| 7 ft. Pond b. & t., 2 heads. | 17 ft. column tracers. |
| 8 ft. Michaels b. & t., 1 head. | |
| 8 ft. Pond b. & t., 2 heads. | |

UPRIGHT AND SENSITIVE DRILLS.

- | | |
|--|--|
| 13 in. 1 sp. sensitive, motor d., 110 v. | 30 in. sliding head, Putnam. |
| 10 in. 2 sp. sensitive, Slate. | 36 in. sliding head, Gould & E. |
| 10 in. 3 sp. sensitive, Slate. | 48 in. sliding head, Niles. |
| 10 in. 3 sp. sensitive, Signourney. | 4 spindle Bement, multiple, 11 ft. between housings. |
| 2 spindle dbl. column sen., Langelier. | No. 11 multiple drill, P. & W. |
| 17 in. 4 sp. gang, Jones & L. | 10 sp. adjustable R. & W., capacity |
| 18 in. stationary hd., plain, Niles. | 1 1/2 in. holes in 37 in. circles, belt or motor; weight: 30,000 pounds. |
| 24 in. No. 23 Foote Burt high duty. | |
| 28 in. sliding head, Pond. | |

RADIAL DRILLS.

- | | |
|-----------------------------------|-------------------------------------|
| 2 1/2 ft. semi-radial, Niles & J. | 5 ft. plain, belt or motor, Pond. |
| 3 ft. Baush, plain. | 5 ft. 6 in. universal, Niles. |
| 4 1/2 ft. semi-radial, Barr. | 6 ft. 10 in. semi-universal, Niles. |
| 4 ft. Niles, plain. | 7 ft. 6 in. full universal, Niles. |
| 4 ft. Niles, univ. | Univ. portable radial, Prentice. |
| 5 ft. Niles, plain. | |

MILLERS AND GEAR CUTTERS.

- | | |
|---|-------------------------------|
| No. 2 hand P. & W., 16x7 table. | 6x14 thread miller, P. & W. |
| 24x7 table, plain, Becker. | 30 in. spur gears, Gould & E. |
| 43-9 1/2 No. 3 Cincinnati plain. b. g. | 36 in. spur gears, Pond. |
| Single sp. profiler, 21x24 in. table, Garvin. | 72 in. spur gears, Niles. |
| No. 2 die sinker, P. & W. | 84 in. spur gears, Niles. |

SHAPERS AND SLOTTERS.

- | | |
|--|--|
| 10 in. crank shaper, P. & W. | 18 in. crank shaper, Bement. |
| 10 in. crank shaper, Miles. | 32 in. triple grd. rack, Cincinnati. |
| 12 in. crank shaper, Bement. | 12 in. crank slotter, Bement. |
| 14 in. back geared crank, G. & E. | 14 in. crank slotter, Niles. |
| 16 in. sing. gear crank, Gould & E. | 18 in. crank slotter, Bement. |
| 16 in. down feed, 220 v. motor drive, Stockbridge. | 20 in. crank slotter, Bement, 220 v. direct current motor. |
| 18 in. double trav. head, Cincinnati. | 24 in. geared slotter, Niles. |

SECOND-HAND MACHINERY

Niles-Bement-Pond Company—Continued.

RAILROAD MACHINERY.

42 in. car wheel lathe, Niles.
46 in. car wheel lathe, Bement.
70 in. single dr. wheel lathe, Sellers.
Niles double axle lathe.
Bement double axle lathe.

90 in. extra heavy wheel lathe, Niles.
motor, with or without quartering
attachment.
Putnam double axle lathe, ex. heavy.

PLANERS.

17x17x4 Whitcomb.
22x22x6 Harrington.
26x26x7 Niles, heavy type.
26x23x16 Miles, 2 hds.
30x30x11 Niles, 1 hd.
30x30x6 Pond, 1 hd.
30x30x24 Sellers, 2 hds.
32x32x12 Pond, 2 hds.
32x32x14 Pond, 2 hds.
36x36x 8 Niles, 1 head.

36x36x20 Pond, 3 hds.
40x40x26 Pond, 4 hds.
42x42x12 Woodward & P., 4 hds.
42x42x20 Miles, 3 hds.
48x48x16 Pond, 4 hds., heavy, 220 v.
motor.
48x48x20 Sellers, 3 hds.
50x50x18 Gleason, 2 hds.
72x60x20 Niles, 2 hds.
86x86x35 Pond, 4 hds.

MISCELLANEOUS.

Bending and straightening machine,
horizontal, for 10 to 15 in. beams
and channels.
Cut-off machine, 4½ in. Starr.
Cut-off saw, bar 16 in. diam.
Grinder, drill, 3 in. Sellers.

Grinder, plain, 5x32 in. Landis.
Grinder, 12x96 in. Springfield.
Grinder, plain, 18x168 in. Norton.
Steam hammer, 600 lbs. Bement.
Tire bending rolls, 4 in. diam.

FOR SALE BY

Girard Machine & Tool Co., - 491-493 N. 3d St., Philadelphia, Pa.

LATHES.

10x 5 Reed, r. & f. rest.
12x 5 Reed, r. & f. rest.
12x 6 Blaisdell, comp. rest.
16x10 f. e. Blond, comp. rest.
18x 8 Reed, comp. rest.
20x 8 Reed, comp. rest.
24x 8 Fitchburg, comp. rest.

24x10 Draper, comp. rest.
24x10 Blaisdell, comp. rest.
28x12 Pond, comp. rest.
30x10 Pond, comp. rest, heavy duty.
36x12 Pond, comp. rest, triple geared.
42x12 Putnam, compound rest, triple
geared.

PLANERS.

18x18x4 Fitchburg, 1 head.
24x24x6 Whitcomb, 1 head.
36x36x5 Pond, 1 head.
30x30x8 Grey, 2 heads.
30x30x 6 Powell, 2 heads.

32x32x10 Bement-Niles, 1 head.
32x32x 8 Pond, 2 heads.
36x36x 8 Pond, 2 heads.
42x42x12 Pond, 2 heads.

BORING MILLS.

36 in. Bullard, 2 heads.
38 in. Baush, 2 heads.

72 in. Pond, 2 heads.

RADIAL DRILLS.

30 in. Gang, 4 ft. Lodge & Davis.

5 ft. Prentiss, wall, 5 ft. Prentiss.

SCREW MACHINES.

2x24 J. & L., geared head and bar
outfit.

40 in. Gisholt.
Garvin, Warner & Swasey, all sizes.

SHAPERS.

30 in. Cincinnati, 16 in. Blaisdell
crank planer.

16 in. Cincinnati.
20 in. Putnam.

MISCELLANEOUS.

Gear shaper, 36 in. Fellows.
Grinder, cutter, Brown & Sharpe.
Hammers, steam, 600 lb. Bement;
Bradley; Little Giant trip hammer.
Presses, power, No. 4 Bliss.

Millers, Bement and Smith, hori-
zontal and vertical.
Turrets for lathe bed, 24 in. and 34 in.
Punch and shear, No. 4 Perkins,
punch 1-in. through 1-in. iron.

Pipe machines, wet and dry tool grinders, circular shears, speed lathes, full
line of Wood-working Machinery, new and second-hand.

Write for description, etc., etc.

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe.

30 Church St., New York City

PLANERS.

134"x26" Pond, 4 heads.
76"x14" Pond, 2 heads.
72"x26" Sellers, 4 heads.
48"x12" Detrick & Harvey, open
sides, 2 heads.
48"x10" New Haven, 1 head.
48"x12" Sellers.
42"x14" Pond, 1 head.
42"x10" Betts, 2 heads.
36"x11" Sellers, 2 heads.
36"x10" Pond, 2 heads.
36"x 8" Pond, 2 heads.

36"x 8" Pond, 1 head.
36"x 8" Detrick & Harvey, open
side, 2 heads.
30"x10" Gray, 2 heads.
30"x7 1/2" Sellers, 2 heads.
28"x 6" New Haven, 1 head.
27"x 8" Woodward & Powell, 1 hd.
26"x 7" Putnam, 1 head.
24"x 8" Pratt & Whitney, 1 head.
22"x 8" Pratt & Whitney, 1 head.
20"x 4" Pease, 1 head.
17"x 3" Bridgeport, 1 head.

LATHES.

84" swing, triple geared, heavy.
60"x10" New Haven, triple-geared.
56"x16" Putnam, triple geared.
52"x30" Putnam, triple geared.
50"x18" Fitchburg, triple geared.
50"x16" Fitchburg, triple geared.
38-60"x16" dble.-spindle, McCabe's.
48"x24 1/2" Fitchburg, tri. gd., block 66"
42"x14" Fifeild, triple geared.
38"x36" Fifeild.
36"x18" Betts, triple geared.
36"x14" Putnam.
32"x13" Pond.
30"x17" Pond.
28"x15" New Haven.
27"x16" Lathe & Morse.

26"x14" Schumacher & Boye.
26"x16" Putnam.
26"x12" Blaisdell.
26"x10" Pond.
24"x14" New Haven.
22"x12" Draper.
22"x 8" Putnam.
20"x 8" Pond.
18"x10" Star Co's.
18"x 8" Hendey.
18"x 8" Schumacher & Boye, taper
attachment.
16"x 8" Harrington.
16"x 6" Putnam.
14"x 6" Reed.
12"x 6" Reed.

UPRIGHT BORING MILLS.

14-20" swing, Niles, double head,
motor drive.
8" swing, Sellers, single head.
6" swing, Pond, one head.

4" swing, Niles, 2 heads.
3 1/2" swing Baush, 2 heads.
2 1/2" swing, Bullard, turret head.

HORIZONTAL BORING MACHINES.

Horizontal boring and drilling ma-
chine, 1 11-16" spindle, Hoeler.
2" Hor. boring machine, Garvin.

2 1/2" Hor. boring machine, Bement.
2 13-16" Horiz. ntal boring machine,
Bement.

MILLING MACHINES.

Planer type, 30"x9" Niles.
Vertical, table 53"x16", B. & S.
Pl., large size table 60"x14" Bement.

Plain, manufacturer's style, table
58" Newton.
Universal, tool-room size, Brainerd.

SLOTING MACHINES

16" stroke, Bement-Miles.
13" stroke, Bement-Miles.

12" stroke, Sellers.

TURRET LATHES.

32" swing, American, heavy.
24" swing, Gisholt, full equipment.
2x24" Jones & Lamson, flat turret.
22" Potter & Johnston, dbl. turret

16" swing P. & W., screw machine.
14" wire feed, Garvin screw mche.
14" Windsor, screw machine.

BOILER SHOP TOOLS.

10' bending rolls, Niles, heavy.
10' Bending rolls, Bement, lighter
pattern.
8 1/2' Bending rolls, Niles.
Bevel shears, No. 2 Lenox.

26" throat punching shears, double,
Hilles & Jones.
24" throat punching shears, single,
Cleveland.
Hor. flange punch, 12" Ovington.

DRILLS.

7' arm radial half universal, Bement.
5 1/2' arm plain, Prentice Bros.
5' arm plain, Prentice Bros.
4' arm plain, Prentice Bros., speed
box.

4' arm, Niles Co., half universal.
50" swing, upright, Harrington.
42" swing, upright, Prentice Bros.
36" swing, Snyder.
32" swing, Pond.

SECOND-HAND MACHINERY

J. J. McCabe—Continued.

MULTIPLE DRILLS.

14" spindle Baush, high speed.
8" Western Co.

4" Jones & Lamson.

RAILROAD TOOLS.

42" Car wheel lathe, double head.
38" Car wheel borer, with hub fac-
ing attachment.

26-48"x14" double spindle lathe,
motor drive, McCabe's.

MISCELLANEOUS.

Bolt cutter, 1" Landis.
Bolt cutter, 1 1/2" Landis.
Cutting-off machine, 3" P. & W.
Gear hobber, 20" Cleveland.
Gear cutter, 30" Gould & Eberhard.
Pipe machine, 6" Jarecki.
Pipe machine, 10" Jarecki.

Shaper, 15" stroke, Prentice.
Shaper, 25" stroke, Smith & Mills.
Steam hammer, 400 lbs., Erie.
Steam hammer, 700 lbs., Bell Co.
Surface grinder, Walker Co.
Universal grinding machine, Brown
& Sharpe, 20"x72".

FOR SALE BY

Brown & Zortman Machinery Co., 2535 Liberty Ave., Pittsburg, Pa.

LATHES.

18 in. American Tool & Machine
brass lathes, (2).
20x8 Lodge & Shipley.
24 in.x14 ft. New Haven.

24 in.x14 ft. Lodge & Shipley patent
head lathe.
60x18 New Haven, with 14 ft. ex-
tension, triple geared.

PLANERS AND SHAPERS.

30x30x12 Sellers planer.
42x42x18 Betts planer.
84x84x14 Niles planer, 3 heads.
20 in. Gould & Eberhardt shaper.

24 in. Juengst shapers, (2).
26 in. Kelly shaper.
28 in. Juengst shaper.
30 in. Morton draw cut shaper.

RADIAL DRILLS.

No. 1 Bickford, plain.

30 in. Mueller, plain.

MISCELLANEOUS.

Grinder, universal, No. 2 Diamond.
Grinder, universal, No. 2 Landis.

Pulley boring machine, 30 in. Niles.

FOR SALE BY

The Osborne & Sexton Machinery Co., . . . Columbus, Ohio.

LATHES.

14x 6 hol. spdl., comp. rest.
16x8 Reed, turret on shears.
16x10 Mueller, comp. rest, hol. spdl.
18x6 Niles Tool Works.
18 & 20x12 Hamilton, h. s., c. r.

31x8 Lodge & Davis.
22x12 Lodge & Davis.
26x10 Bradford.
22x20 Niles Tool Works.
44x18 Niles Tool Works.

PLANERS AND SHAPERS.

14 in. Hendy.
16 in. Gould & Eberhardt.
20 in. Queen City.
20x20x4 Industrial, single head.
24x24x6 Lodge & Davis, sgl. hd.

24x24x6 Gray, single head.
30x30x8 Gray, single head.
48x48x10 Gray, 2 heads.
48x48x20 Belmer, 4 heads.
72x72x19 Betts, 4 heads.

MISCELLANEOUS.

Boring mill, 50 in. Niles.
Cornice brake, 8 ft., all metal.
Cylinder boring machine, 48 in.x9 ft.
Drill, 24 in. Cincinnati, sta. head.
Drill, 32 in., sliding head.
Gas engines, 10, 15, 25, 40 & 60 h. p.
Gas furnaces, Chicago, (2).
Grinder, cutter and reamer, B. & S.
Grinder, surface, Garvin.
Grinder, wet tool, No. 3 Safety.
Hammers, drop, 300, 600 and 3,000 lbs.
Hammers, helve, Schatz & Dayton.

Miller, plain, Grand Rapids No. 1
Miller, plain, Prentice.
Miller, light universal, B. & S.
Presses, foot, No. 1 Consolidated, (3).
Presses, inc. Etma No. 11 and 12.
Punch and shear, 18 in. single end.
Pyrometer, Hoskins electric, new.
Radial drill, 5 1/2 ft. Niles.
Shovel blanking rolls, Toledo.
Slotters, 10 in. vertical.
Threading mches, Webster & P., (2).

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago
610 Merrill Building, Milwaukee, Wis.

LATHES.

- | | |
|---------------------------------------|---|
| 9x36 Rockford. | 19x10 Cincinnati, compound rest. |
| 14x6 Lodge & Shipley, pat. head. | 20x8 Hamilton, q. c. g., comp. rest. |
| 14x6 Flather, compound rest. | 20x12 Draper, compound rest. |
| 14x6 Draper, compound rest. | 22x16 Flather, compound rest. |
| 16x6 Bradford, like new. | 22x12 Draper, good order. |
| 16x6 Prentice Bros., compound rest. | 30x12 Flather, compound rest. |
| 16x7 Pratt & Whitney, c. r. & taper. | 31x18 Bradford, compound rest. |
| 16x7 Blaisdell, comp. rest and taper. | 32x14 Putnam, compound rest. |
| 16x9 Bradford, like new. | 50x20 New Haven, compound rest. |
| 18x10 Bradford, compound rest. | 18-36 in. x8 ft. Fay & Scott gap lathe. |
| 18x10 Economic, compound rest. | |

SHAPERS.

- | | |
|--------------------------------------|--------------------------------------|
| 14 in. Flather, crank. | 17 in. Economic, single grd. crank. |
| 15 in. Hendy, friction. | 18 in. Flather, single geared crank. |
| 16 in. Steptoe, single geared crank. | 20 in. Juengst, single geared crank. |
| 16 in. Walcott, single geared crank. | 22 in. Walcott, triple geared. |

PLANERS.

- | | |
|---|---|
| 22x22x5 Whitcomb, good order. | 36x30x12 Sellers, old style, low price. |
| 26x26x8 Whitcomb, (new, reduced price.) | 36x36x10 Gray, 2 heads. |
| 30x30x10 Flather, 3 heads. | 36x36x14 Belmer, 2 heads. |
| 30x30x12 Belmer, 2 heads. | 36x36x12 Gray, 2 heads. |
| 32x32x8 Am. Tool Works, 1 head. | 40x38x14 Putnam, old style, low pr. |
| 32x32x12 Ohio, 2 heads. | 42x42x14 Detrick & H., open side. |
| 32x32x10 Gray, 2 heads. | 44x44x12 Pond, 2 heads. |
| | 48x48x20 Belmer, 4 heads, rebuilt. |

MILLING MACHINES.

- | | |
|---|---------------------------------------|
| No. 3 Cincinnati, pl. d. b. g., cone dr. | No. 3 1/2 Fox, plain. |
| No. 3, Cincinnati, high power, all geared, single belt. | No. 13 Garvin, plain. |
| No. 3 1/2 Waltham, bench. | No. 5 Garvin, plain, back geared. |
| No. 3 Fox, plain. | No. 2 Thurston die miller. |
| | No. 4 Becker, univ. (new, low price.) |

UPRIGHT AND RADIAL DRILLS.

- | | |
|--|--|
| 2 1/2 ft. Fosdick National radial. | 38 in. New H., sl. hd., bk. gr., p. l. |
| 3 ft. Fosdick standard radial. | 36 in. Hamilton, back gear and p. l. |
| 5 ft. arm Western universal radial. | 36 in. Hamilton, b. g., p. f. & a. s. |
| 5 ft. Bickford plain, gear box radial. | 35 in. Blaisdell, sl. hd., b. g. & p. f. |
| 4 ft. Bickford plain, cone radial. | 28 in. Superior, b. g., p. f., auto. stop. |
| 6 ft. Bickford radial. | 25 in. Prentice Bros., sl. hd., b. g., p. l. |

POWER PRESSES AND PUNCHES.

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|--|--|
| No. 30 Perkins, open back inc. press. | No. 76 1/2 Bliss st. sided press, 4 in. a. |
| No. 2 Rudolphi & K., o. b. i. press. | No. 1 1/2 Bliss cam drawing press. |
| No. 3 Niagara open back inc. press. | No. 31 Toledo solid back press. |
| No. 18 Bliss open back inc. press. | No. 1 Syversen solid back press. |
| No. 90 Crosby, open back press. | No. 3 Bliss "Stiles" geared punch. |
| No. 4 1/2 E. Rudolphi & K. arch press. | Humphrey single end punch, 36 in. throat, cap. 1 1/2 in 1 in. |
| No. 4 A Rudolphi & Krummel deep throat press. | Bement sgl. end punch, 42 in. throat, cap. 4 in 1 1/2 in. |
| No. 65-A Consolidated, straight sided, steel rods. | Keen multiple punch & shear, 24 in. throat, 36 in. between uprights. |
| No. 73 1/2 Bliss st. sided press, 12 in. st. | |

SCREW MACHINES AND TURRET MACHINES.

- | | |
|---------------------------------|---|
| No. 2 Pratt & Whitney. | No. 3 Foster universal turret. |
| No. 2 1/2 Pratt & Whitney. | 22 in. Gisholt, fine condition. |
| No. 4 B. & O. screw machine. | 24 in. Davis Machine Company. |
| No. 51 National-Acme automatic. | 14 Turret Lathes, small sizes, various makes. |
| 4-1/2 in. Cleveland automatic. | |
| 4-1/2 in. Cleveland automatic. | |

BORING MILLS—VERTICAL AND HORIZONTAL.

- | | |
|-------------------------------------|--------------------------------------|
| 37 in. Niles, 2 heads. | 10 ft. Betts, 2 heads. |
| 53 in. Colburn, 2 heads. | 10-16 ft. Niles, extension housings. |
| Fitchburg horizontal, 36 in. swing. | 60 in. Pond, 2 heads. |
| 34 in. Colburn, swivel turret. | |

SECOND-HAND MACHINERY

The H. A. Stocker Machinery Co.,—Continued.

MISCELLANEOUS.

Bolt cutter, 1½ in. Schlenker.	Grinder, plain, No. 14 Landis.
Bolt header, ½ in.	Hammer, helve, 40 lb. Bradley.
Centering machine, 4 in. Whiton.	Hammer, upright helve, 100 lb.
Cold saw, No. 4 Birdsboro, 6 ex. saws.	Bradley, like new.
Crane, 30-ton Niles, 72½ ft. span.	Hammer, drop, 500 lb. National.
Gas furnace, No. 1 Stewart comb.	Hydraulic press, 40 ton.
Gear cutter, 30 in. Flather.	Hydraulic press, 100 ton, with pump.
Gear hobbing machine, Reynolds.	Pipe machine, 4 in. Saunders.
Gear hobbing machine, No. 0 S. & S.	Pipe machine, 4 in. Stoeber.
Gear hobbing machine, No. 1 S. & S.	Riveter, 3-16 in. Adt.

FOR SALE BY

Western Machinery Co., 6th and Baymiller Sta., Cincinnati, Ohio.

LATHES.

15"x 6' Morris, compound rest, new, (shop worn).....	\$ 275.
15"x 6' Jones & Lamson, compound rest.....	150.
18"x 6' American, compound rest.....	265.
20"x14' Gray, overhauled, compound rest.....	300.
18"x25"x8½' Rahn-Carpenter compound rest.....	350.
26"x14' Lathe & Morse, compound rest.....	275.

DRILLS.

4' U. R. D. plain radial.....	\$ 275.
26" Fitchburg, back gear, power feed.....	140.
48" old style, power feed.....	125.

MISCELLANEOUS.

Boring mill, 8', vertical.....	\$ 450.	Planers, 24"x5', 32"x7', 42"x16'.
Miller, hand, No. 2 Fox.....	135.	Shaper, 10', 16" and 24".
Pipe machine, 6" Curtis.		Turret screw machine.
Grinders, power hack saws, and large stock other machine tools, machinery and supplies.		

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.

St. Louis, Mo.

LATHES.

12"x5' Fairbanks.	26"x16' Niles.
14"x6' Lodge & Davis.	30"x18' American.
18"x6' Schumacher & Boye.	16" Automatic turret brass.
22"x12' Hamilton, quick change.	

SHAPERS AND PLANERS.

12" Steptoe.	22"x22"x5' New Haven.
16" Rockford, plain crank.	24"x24"x6' Whitcomb.

PUNCHES AND PRESSES.

22" throat Pells punch, cap. 1" in 1".	No. 1 Consolidated press.
No. 1½ Bliss toggle drawing press.	No. 2 Consolidated press.
No. 104 Bliss double crank press.	No. 10 American Can press.

DRILLS.

26" Barnes, sliding head.	42" Bickford, plain radial.
60" Bickford, goose neck.	6-spindle Quint.

MISCELLANEOUS.

Blower, pressure, No. ½ Garden City.	Gate shear, 66" Long & Allstatter for ½ plate.
Bolt cutter, 1½" National.	Keyseater, No. 6 Morton.
Bolt cutter, 3½".	Leather belt, 12" double, 60".
Bolt cutter, Wells Bros.	Orange peel bucket, 1-yard.
Boring mill, 4'.	Riveter, pneumatic, 48" reach.
Bulldozer, No. 4 Williams-White.	Splitting shear, 48" throat.
Can top threaders, (2).	Traveling crane, 10 ton, 21' span.
Concrete mixers.	
Hammer, 600-lb. board drop,	

SECOND-HAND MACHINERY

FOR SALE BY

Rumely-Wachs Machinery Co., 121 N. Jefferson St., Chicago, Ill.
LATHES.

13"x 5' Davis.	18"x 8' LeBlond turret on shear.
14"x 6' Flather, taper.	18"x 8' Walcott.
14"x 6' Pratt & Whitney, (2).	20"x 9' Draper.
14"x 8' Pratt & Whitney, (2).	20"x10' Blaisdell.
14"x 6' Perkins.	24"x 8' Putnam.
15"x 5' Whitcomb-Blaisdell.	24"x10' LeBlond, standard.
15"x 6' Whitcomb-Blaisdell, taper.	24"x12' New Haven.
15"x 6' Walcott, comp. rest, taper, relieving attachment.	24"x24' Fifeid.
16"x 6' Walcott, c. r., geared feed.	26"x10' Enterprise.
16"x 6' Hendey.	26"x12' Reed.
16"x 6' Porter.	28"x12' New Haven.
16"x 6' Flather.	30"x12' Lodge & Shiply.
16"x 7' Springfield.	36"x12' Schumacher & Boye.
16"x 8' Fay & Scott with turret.	36"x14' Fifeid.
18"x 6' Flather.	42"x16' Fitchburg.

UPRIGHT DRILLS

1 spindle Henry & Wright, (2).	20" Barnes.
3 spindle Reed.	21" American.
3 spindle Sigourney.	34" Barnes, sliding head.
18" Baker Bros.	40" Lodge & Davis, sliding head.

RADIAL DRILLS.

2½ arm Gang radial.	3' Bickford radial.
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HORIZONTAL BORING MILL.

VERTICAL BORING MILLS.

42" Bullard.	54" Bridgeport.
42" Bridgeport.	

PLANERS.

32"x22"x 5' Wheeler.	30"x30"x 8' Putnam.
24"x24"x 5' Cincinnati.	36"x36"x 8' Geneva.
24"x24"x 5' Pease.	36"x35"x15' Powell.

TURRET LATHES AND SCREW MACHINES.

No. 1 Pratt & W. screw machine.	18"x 8' Lodge & Davis, f. b. g.
¾" Brown & Sharpe auto. screw machines.	18"x 6' American Fox, square arbor.
No. 1 Brown & S. screw machine.	18"x 6' American Fox monitor.
No. 4 Bardons & O. turret lathe, w. f.	21" Gisholt.
	24" American.

MILLERS.

No. 26 Becker, plain.	No. 22 Kempsmith univ., all feeds.
No. 1 Cincinnati, plain.	No. 13 Brainard, universal.
No. 16 Garvin, plain.	No. 1 Brown & Sharpe, universal.

SHAPERS.

14"x40" Sellers, traveling head.	20" Walcott.
16" Rockford, b. g.	22" Walcott.

GRINDERS.

No. 2½ Bath, universal.	10"x30" No. 20 Landis, plain.
No. 2 Landis, universal.	18"x96" Landis, plain.

PUNCH PRESSES AND SHEARS.

No. 3 Crosby, solid back.	22 in. Toledo power squaring shear.
No. 39 A Perkins, o. b. l.	No. 10½ Rock River.
Worm gear power press.	

MISCELLANEOUS.

Bolt cutter, 1" Acme, double head.	Pipe machine, 4" Bignall & Keeler.
Bolt cutter, 1½" Economic sgl. hd.	Rivet spinning mach., 5-16" Grant.
Bolt cutter, 2½" National, sgl. hd.	Saw table, Colburn.
Cutting-off machine, 4½" P. & W.	Screw press, Bliss.
Hammer, 5½ lb. Bliss, drop, lifter.	

SECOND-HAND MACHINERY

FOR SALE BY

McCoy & Brandt, 410 House Building, Pittsburg, Pa.
LATHES, MILLING MACHINES AND DRILL PRESSES.

13 in. x 5 ft. American
14 in. x 6 ft. Lodge & Shipley.
17 in. x 8 ft. Parker & Knight.
21 in. x 10 ft. Johnson. hollow spindle,
compound rest, taper attachment.
24 in. x 28 ft. Bradford. power cross
feed, compound rest. 2 in. hol. spdl.
20 in. x 16 ft. Woodlight & Co., comp.
rest, power cross feed.
32 in. x 12 ft. Schumacher & Boye, h.s.
32 in. x 33 ft. Gleason shafting lathe.
48 in. x 22 ft. Crichton & Barnes.
66 in. x 18 ft. New Haven. 14 ft. ext.
22 in. Prybil spinning lathe.
13 in. x 5 ft. Blount speed lathe, tur.
attachment.
No. 4 J. & L. turret lathe.

9 in. E. & S. Turret, 6 tool turret, h.s.
No. 2 Warner & Swazie turret.
17 in. swing P. & W. 6 tool tur.. 1 1/2
hollow spindle.
B. & S. universal tool room miller.
No. 3 1/2 Fox miller, back geared.
No. 13 Garvin plain miller.
20 in. Davis drill press, back geared.
26 in. Barnes, back geared.
3 spindle Gardam sen.. 1 1/2 in. spin.
36 in. Universal radial.
42 in. Pond plain radial.
12 spindle Baush, 1 1/2 in. spindles.
5 ft. Fosdick full universal. tap. att.
15 ft. Cleveland P. & S. Co., wall
radial.

SHAPERS, PLANERS AND BORING MILLS.

24 in. Hendey crank shaper.
20 in. P. & W. crank shaper.
Cincinnati openside, 10 ft. 6 in. x 25 in.
reach.
10 in. Putnam, traverse head.
36x36x8 New Haven planer.
38x38x20 Gleason, ext. to 52 in.
48x48x10 Woodward & Powell, 2 hds.
60x60x24 Cincinnati, 4 heads.
60x18x16 Geneva, 1 head.

96x96x16 Powell.
24 in. Betts rotary, 4 ft. 6 in. travel.
32 in. horizontal boring & turning
machine.
48 in. Colburn, 2 swivel heads.
53 in. Colburn, 2 swivel heads.
50 in. Niles hub boring machine.
60 in. Niles.
14 ft.-20 ft. Niles boring mill.

PUNCHES, PRESSES, HAMMERS, ETC.

1 1/2 W-W double end, 12 & 24 in.
throat.
Henry Pels T. 40 in. beam shear.
36 in. Cleveland, extra heavy, 2 in.
thru 1 in.
Geo. Whiting punch & s., 42" thr.
Butterfly shears for cutting light
scrap. (6).
24 & 30 in. foot power squaring
shears.
No. 2 Toledo foot power punch press.
1500 lbs. Lane steam drop hammer.
1250 lbs. Bement-Niles steam drop.
1250 lbs. Chicago board lift drop.
500 lbs. Bell single leg steam.
800 lbs. Niles single leg.

4000 lbs. Chambersburg double leg.
P 2 Ferracute press.
No. 3 Bliss double crank, 36 in.
bolster.
No. 3 1/2 A Bliss toggle press.
No. 95 E Toledo power press.
Toledo 205-D-60 double crank press.
No. 20 Bliss inclinable.
3P Ferracute side crank.
36x36 in. Bliss cornice makers' drop
press.
1 in. Acme thread roller.
1 1/2 in. Acme single head bolt cutter.
3 in. Reliance bolt cutter.
3 in. Acme pipe threading machine.
4 spindle D & H 1/2 in. nut tapper.

CRANES, COMPRESSORS AND GENERATORS.

10 ton 40 ft. span Shaw, 220 v., d. c.
10 ton 40 ft. span Niles, 220 v., d. c.
3 ton 32 ft. span Brown hoist hand
crane.
10 ton 95 ft. span Morgan, 220 v., d. c.
6x6 in. Rand imp. type compressor.
8x8 in. Rand imp. type.
25x20 in. Ing. Rand duplex imp.
16x10 in. Bury, class BB, 40 lbs.
30 k. w. West. d. c. 8x12 in. auto. eng.
55 k. w. West. type S, 125 v., d. c.
35 k. w. West. d. c. 55 h. p. gas eng.
110 v.
56 k. w. West. 125 v., d. c. West. gas
eng.
60 k. w. West. 125 v. perfect cond.

10x16x14 Bury duplex, 50 lbs.
24 1/2x18 in. Ing. Rand dup. class D.
12x12 & 6 1/2x10 Norwalk, 282 ft.
14 & 16x10x16 Sullivan, 537 ft.
20x20 & 12 1/2x24 Norwalk, 960 ft.
22x22 & 13 1/2x24 Norwalk, 1160 ft.
20x22x16 Ingersoll Rand, 2000 ft.
25 k. w. Keystone gen., 115 v., d. c.
100 k. w. Bullock, d. c. Erie eng.,
120 v.
56 k. w. West. type M, 250 v., d. c.
75 k. w. West. 250 v., d. c., d. c. West.
gas eng.
75 k. w. West. 250 v., d. c. Ball eng.
100 k. w. Westinghouse, 250 v., d. c.
d. c. McEwen engine.

SECOND-HAND MACHINERY

FOR SALE BY

The Randle Machinery Co.,

1739 Powers St., Cincinnati, O.

ENGINE LATHES.

18 in. x 8 ft. McFarlan.
16 in. x 8 ft. Steptoe.
17 in. x 12 ft. Greaves-Klusman.
18 in. x 8 ft. McFarlan.
Lathes complete with face plates,
chuck, countershafts and all parts.

PLANERS.

36x36x8 ft. Oesterlein, with countershaft and all tools.
1 special planer 47 in. between housings, tables 11½ ft. long.

GAS & GASOLINE ENGINES.

35 h. p., Anglaize.
25 h. p., Dean; smaller sizes also.

MISCELLANEOUS.

Heaters, tanks, pumps, electrical, saw mill and general machinery, including a complete line of Iron Working Tools. Write for list.

Also a full assortment of new machinery.

Sole manufacturers of the celebrated "Leader" Injectors and Jet Pumps.

BOILERS.

Horiz. tubular, from 30 to 150 h.p.
Fire box, from 8 to 80 h. p.
Vertical, from 3 to 50 h. p.

ENGINES.

Corliss, from 50 to 500 h. p.
Automatic, from 15 to 200 h. p.
Throttling, from 5 to 225 h. p.

ELECTRIC GENERATORS.

120 k. w., belted.
20 k. w., direct connected.
18 k. w., belted.

MOTORS.

All sizes and kinds.

FOR SALE BY

A. D. White Machinery Co.,

108-114 N. Jefferson St., Chicago

LATHES.

12x5 P. & W., taper and chucks.
14x5 Reed, taper, 2 chucks.
10x6 Flather, 2 chucks.
18x8 Rahn-Carpenter.

18x8 American, latest pat.
20x10 American, q. c., motor drive
28x14 Fifield.
30x10 Powell.

DRILLS.

18 in. Blaisdell.
23 in. Hamilton.
28 in. Bickford, sliding head, (4).
16 spindle Baush multiple.

30 in. Kerkhoff, sliding head.
30 in. Bickford, sliding head.
32 in. Bickford, sliding head.
3 ft. Bickford radial, cheap.

PLANERS.

24x 6 Gray, 1 head (2).
24x 6 Pond, 1 head.
25x 6 Sellers, spiral drive.
26x 6 Gray, 1 head.
26x 8 Gray, 1 head (2).
28x 8 Gray, 1 head (2).

32x8 Betts, 1 head.
36x10 Gray, 2 heads.
36x12 Cincinnati, 2 heads.
38x10 Gray, 1 head, fine.
52x25 Betts, 1 head.

SCREW MACHINES AND TURRET LATHES.

18 in. No. 3 Pearson screw machine.
No. 2½ Pratt & Whitney sc. mche.
No. 2 Pratt & Whitney sc. mche.
1 in. Cleveland, automatic.
1 in. Pratt & Whitney, automatic (4).
1 in. Cleveland, semi automatic.

3 in. P. & W., automatic.
13 in. Dreeses turret lathe.
16x5 Flather turret lathe.
18 in. Dreeses turret lathe.
18 in. D. & E., fr. hd., 2 step cone
5½ in. belt turret lathe.

PUNCH PRESSES.

No. 3 Stiles.
No. 2 R. & K., o. b. i. (6).
No. 4 Toledo, o. b. i.
No. 19 Bliss inc., (2).

No. 4 Stiles press.
No. 3½-A Bliss toggle press.
No. 68 N. Bliss, double action.

MISCELLANEOUS.

Boring and facing machine, No. 1 Beaman.
Die slotter, Garvin, like new.
Gear cutter, No. 13 B. & S.
Grinder, cutter, H. G. Barr.
Hammer, power, 35 lb. Justice.
Hammer, power, 50 lb. Dienelt.
Hammer, drop, 200 lb. Norton.

Hammer, steam drop, 5000 lb. Erie.
Keyseater, No. 2 Catlin.
Keyseater, 16 in. Morton.
Miller, No. 1 B. & S. universal.
Miller, No. 25 Brainerd, b. g.
Shaper, 14 in. P. & W., univ. vise.
Shapers, 16 in. Smith & Mills (2).
Shaper, 18 in. Henderson, b. g.

Are getting out new list, with prices that will surprise you. Write for it.

SECOND-HAND MACHINERY

FOR SALE BY

The E. L. Easley Mchy. Co. 817 Washington Blvd., Chicago, Ill.

A partial list of used machinery for quick delivery. We have a large stock of new machine tools not listed here. If you don't find here what you want, write us, giving sizes and detail.

DRILLS.

- | | |
|---|--|
| 12 in. Willey electric, 210 v., d. c. | 24 in. Sibley & W., sl. hd., b. gd., p. f. |
| 4 spindle Dwight-S sensitive drill. | 28 in. Hamilton, sl. hd., b. gd., p. f. |
| 4 spindle Quint turret drill. | 28 in. Kern, sl. hd., tapping att. |
| 6 spdl. No. 3 Garvin, mult., table fd. | 24 in. Aurora, sta. head, b. g., p. f. |
| 20 in. S. & W., sq. base, (2). | 25 in. Barnes sta'ry hd., b. g. and p. f. |
| 18 in. Baker Bros. high speed, (2). | 28 in. Lodge & D., sl. hd., b. gd., p. f. |
| 20 in. Barnes Sr., et. hd., b. g.; p. f. (3). | 32 in. Kern, sl. hd., b. g., p. f., tap'g. |
| 24 in. Hamilton, sl. hd., b. g., p. f. | 34 in. Barnes sl. hd., b. g., p. f. |
| 26 in. Bickford, st. hd., b. g. | 2 ft. American, sensitive radial. |

ENGINE LATHES.

- | | |
|--|---|
| 12x5 Pratt & W., r. & f. r., tap. att. | 18x10 Putnam. |
| 14x6 Flather, compound rest. | 20x8 Bridgeport, c. r. |
| 15x6 Walcott, back geared, rebuilt. | 21x6 Lodge & D., pl. r. |
| 16x8 LeBlond, pl. rest. | 24x11 New Haven, c. r. |
| 16x6 Springfield, c. r., p. c. f. | 24x6 Wood & Light, c. r. |
| 16x6 Pratt & W., c. r., p. c. f. | 26x14 Putnam, c. r., b. gd., etc. |
| 16x7 Springfield, c. r., p. c. f. | 28x10 Pratt & W., c. r., p. c. f., etc. |
| 18x10 Blaisdell, plain rest. | 30x18 Gleason, pl. r., p. c. f. |

MISCELLANEOUS LATHES.

- | | |
|---|--|
| No. 21 Garvin, plain head, Monitor, | 13 in. Gisholt, standard turret, comp. |
| 13-16 in., hollow spindle. | Pearson b. g. hub machine, like |
| 30 in. x 8 ft. P. & W. p. hd. chucking | turret lathe, 2 1/2 in. h. s. |
| lathe, 24 in. 4-j. chk., p. f. to t. s. | 22x7 Lodge & D., turret, bk. gd. |

PLANERS.

- | | |
|------------------------------|-----------------------------|
| 15x15x36, 1 head. | 30x30x12 Whitcomb, 1 head. |
| 20x15x36 L. W. Pond, 1 head. | 30x30x16 Hamilton, 2 heads. |

SCREW MACHINES—TURRET LATHES.

- | | |
|--|--|
| No. 3 Woods tilted turret screw | No. 2 1/2 Pratt & W. screw machine. |
| machine, 1 1/2 in. cap., fine order. | No. 2 Pearson, complete, 1 1-16 in. |
| No. 2 1/2 Garvin, w. f., a. c., 17-16 in. cap. | w. f. capacity. |
| 24 in. Davis turret chucking mach. | 2 in. x 24 in. Jones & L. flat turret, |
| No. 2 Foster-K 1 1/2 in. w. f. cap. | cone head, "D" outfit, fine order |

MISCELLANEOUS.

- | | |
|---|---|
| Blower, steel, No. 10 Sturtevant, 7 ft. | Hammer, 100 lb. No. 4 Beaudry, belt. |
| high, 18 in. outlet | Hammer, stea'n. 250 lb. Bell. |
| Blower, No. 6 Boston & Co., S. | Keyseater, No. 2 Davis. |
| Bolt header, 1 in. Burdick. | Miller, No. 3 Kempsmith, plain. |
| Bolt cutter, 1 1/2 in. Nat'l, sgl. hd. | double b. g. |
| Bolt cutter, 1 1/2 in. Adams, single. | Miller, No. 2 Fox, hand. |
| Boring mill, 30 in. Bullard, 3 j. ck. | Miller, No. 5-B Becker-B, plain. |
| Boring mill, 30 in. Colburn, 3 j. ck. | Miller, No. 24 Garvin, plain. |
| Boring mill, 30 in. Niles, 3 j. ck. | Miller, No. 2 Kearney & Trecker, |
| Boring mill, 34 in. Colburn. | back geared, plain. |
| Boring mill, 51 in. Niles. | Pipe mche., 4 in. Borden, complete. |
| Cold saw, No. 4 Keystone, 4 1/2 in. | Pulley lathe, 30 in. Stevens. |
| Cutting-off mach., 2 in. Hurlbut & R. | Punch and shear, No. 2 Colton, |
| Enameling oven, for gas, 6x4 ft. | double end. 20 & 8 in. throats, |
| Grinders, cyl., No. 60 Heald. | capacity 4x 1 1/2 in. rounds. |
| Grinder, Gisholt universal tool. | Punch & shear New Doty comb., |
| Grinder, disc, No. 4 Besly, 18 in. | 4 x 1 1/2 in. flats, 6 in. thrt. |
| Grinder, disc, No. 12 Besly, 12 in. | Punch, No. L 10 Rock River, fly |
| Grinder, plain, Brown & S., 12x18 in. | wheel, single, 10 in. tht., cap. 1 1/2. |
| Grinder, 20x3 Diamond, single wet. | Riveter, 1 in. Shuster. |
| Grinder, Greenfield, tap and die. | Roll threading mche., Rudolphi & K. |
| Hammer, steam 1,250 lbs. Morgan, | Squaring shear, 60 in. power. |
| single frame. | Tapper, No. 1 Garvin, vertical. |
| Hammer, 25 lb. Justice, belt. | Watchmakers bench lathe, 7x32 |
| Hammer, 100 lb. Wais & Roos, belt. | Pratt & W., with atts. |

SECOND-HAND MACHINERY

FOR SALE BY

L. F. Seyfert's Sons, Inc.

437-441 N. 3rd. St., Philadelphia, Pa.

LATHES.

60"x16" Fifeid, dbl. b. g., comp. rest.

52"x13" Fifeid, dbl. b. g., comp. rest.

42"x32" Draper, compound rest.

33"x16" Fitchburg, compound rest.

32"x34" Fifeid, compound rest.

18"x10" American, quick change.

PLANERS.

32"x52"x23" Betts, 1 head.

42"x36"x12" American, open side

37"x36"x10" Belmer Eames, 3 heads.

36"x36"x10" Bement Miles, 2 heads.

30"x30"x14" Gray, 2 heads.

30"x30"x 8" Cincinnati, 2 heads.

MILLING MACHINES.

No. 2 Hendey Norton, universal.

No. 2 Owens, universal.

GEAR CUTTERS.

36" x 8" Becker-Brainard, spur.

48"x10" Gould & E., spur and mitre.

FOR SALE BY

Fred.C. Dickow,

33 So. Desplains St., Chicago, Ill.

PUNCH PRESSES.

No. 2 Crosby, solid back, \$85.

No. 42 Toledo, horn, nearly new, (2).

No. 14½ Stiles & Parker, horn.

No. 2 Norton Bros., A-1, (2).

No. 18 Bliss, inclinable, \$75.

No. 10 Bliss, foot lever.

PLANNER.

22"x20"x6" Wheeler & Co., rebuilt, in first class condition, \$ 275.

LATHES.

5½"x18" Hardinge Bros., bench.

15"x6" American, quick change gear.

16"x6" American, Fox monitor.

14" speed lathe, cheap.

MISCELLANEOUS.

Index centers, universal, 10", brand new, special low price, net, \$ 85

Milling machine, No. 2 Hisey, with index centers, vise, A-1 condition.

Screw machine, 1" Drees, complete, oil pump, practically new, 250.

Power sq. shear, tire bender, polishing and buffing machines, kick and drill presses, grinders, countershafts (2), 1 h. p. d. c. motors, 2 h. p. motors, forges, folder, vises, chucks, double seamer, etc.

We buy from one machine to an engine plant. What have you to sell? Nothing too large or small for us to handle.

FOR SALE BY

Frank Toomey, Inc.,

127 N. Third St., Philadelphia, Pa.

LATHES.

12x6 Hendey-Norton, tool room.

14x7 Lodge & S., geared head.

16x6 Davis.

16x8 Bradford quick change gear.

28x16 Fifeid.

36x16 Niles.

48-72x14 Harrington extension bed gap lathe.

51x30 Baker, blocked to 62½.

Foster & Kimball turret, (several.)

MILLING MACHINES.

No. 2 Cincinnati, full universal.

No. 22 Garvin, vertical.

36 in. x12 ft. slab miller, heavy.

PLANERS.

28x28x7 New Haven.

30x8 Dietrich & Harvey, open side.

33x33x12 Woodward & Powell.

36x36x12 Sellers, 3 heads.

84x84x13 Sellers, 3 heads.

MISCELLANEOUS.

Boring mill, 36 in. Bridgeport, sgl. hd.

Grinder, univ., No. 2 Brown & S.

Grinder, oscillating surface, Springfield No. 3.

Hammer, steam, 400 lb. Chambersburg, single frame.

Radial drill, 36 in. Morris.

Punch and shear, combination. Sellers, 30 in. gap, capacity 1½ in. in 1½ in. and shear 1½ in.

Shaper, 24 in. Queen City, back gd.

Shaper, 24-28 in. Gould & E., tr. gd.

Shear, sgle. end, 50 in. gap, engine dr.

Turret lathes, No. 14 Garvin (2).

SECOND-HAND MACHINERY

FOR SALE BY

The Lake Erie Nail & Supply Co., (Machinery Dept.)

408-412 Frankfort Ave., N. W.

Cleveland, Ohio.

Revised list of Second Hand Machinery at reduced prices. Write for prices.

LATHES.

14"x 6' Bradford, h.s.c. r., taper, ck.
14"x 6' Monarch, c. r., h. s., new, (2).
16"x 6' Perkins, hol. spdl., r. & f. r.
18"x 8' Crane engine lathe.
18"x 6' Blaisdell engine lathe.
18"x 8' Davis & Egan, hollow spindle, compound rest, back geared.
24"x16' Gleason, plain rest, chuck.
26"x24' New Haven.

20"x 8' Walcott & Wood, quick change feed, hollow spindle.
32"x18' engine lathe.
32"x22' engine lathe, raised to 40".
24"x28' Bradford shaft lathe, hollow spindle, compound rest.
26"x22' Sellers, triple gd., p. c. f., c. r.
50" Bull lathe.
88" Large bull lathe.

TURRET LATHES & SCREW MACHINES.

No. 4 B & O, auto. chuck, cut-off rest.
No. 4 Bardons & Oliver, fr. back gr., auto. chuck, cut-off rest.
No. 3 Pratt & W., f. b. g., 14" auto., (2).
22" Bullard, complete.

No. 3 Pratt & Whitney, f. b. g., 2" auto. chuck, power feed turret.
1" Cleveland automatic.
No. 3 P. & W., f. b. g., 3" auto. ck., wire f.

SHAPERS.

16" Walcott & Wood, tri. gd., new, (2).

16" Barker, crank.

DRILLS.

13" Dwight Slate 4-spdl, sensi., (2).
14" Miami Valley sensitive.
No. 2 Garvin 3-spindle gang, (2).
No. 4 Garvin 4-spindle gang.
6-spindle 21" Hoefer, complete.
24" drill press.

30" Midland high-speed radial, with tapping attachment.
34" W. F. & John Barnes, sliding hd.
26" Baker Bros., complete.
Gardam, multiple spindle.
Foote-Burt, multiple spindle.

PLANERS.

60"x60"x18' Pond, 3 heads.
48"x48"x20' Belmar, 4 heads.
36"x36"x 9' New Haven, 1 head.

36"x36"x 8' Niles, 2 head.
30"x30"x 8' Pease, 1 head.
17"x17"x12' Whitcomb crank, 1 head.

MILLING MACHINES.

No. 12 Garvin, plain, (2).
No. 24 Oesterlein, plain.

No. 2 Pratt & Whitney, plain.
No. 3 Kempsmith, plain.

NUT TAPPERS AND BOLT CUTTERS.

1" Acme 6-spindle nut tapper.
1 1/2" Acme 6-spindle nut tapper.
1 1/2" Acme single spindle bolt cutter, motor drive.

1 1/2" Acme single spindle bolt cutter, belt drive.
2" Acme 3-spindle bolt cutter.
3" Reliance bolt cutter.

PRESSES.

No. 19 Bliss, special, stock feed, (2).
No. 76 Cleveland, straight side, gd.

No. 6 Garrison, geared, (2).
No. 41 Toledo plain power press.

GRINDERS.

No. 1 Thompson univ., motor drive.
24" Leland, wet tool.

16" Ransom, double disc.
24"x7' Springfield auto. surface.

ENGINES.

7 h. p. Stickney, gas.
10 h. p. Howe, gas.
10 h. p. New Era, gas.

25 h. p. Foos-Walrath, vertical gas, 2-cylinder.
22 h. p. Buckeye, steam.

MISCELLANEOUS.

Air compressor, 8"x8" Union, single cylinder, water cooled, with 36"x6" tank and fittings.
Boiler punch, 1"x4" L. & B. 24" throat.
Blower, No. 8 Sturtevant Monogram.
Boring mill, 9' Niles.
Broaching mach., Waterbury-F.
Cold saw, No. 1 Lucas & Gleim.
Cold saw, 11 1/2' Higley, with grinder.
Exhausters, 28" (3).
Exhauster, No. 3 Sturtevant.
Exhauster, 50" Sturtevant.
Floor crane, 1 1/2 ton Franklin, new.
Hack saw, 6" Challenge.

Gear cutter, spur, 36"x10" Gould & Eberhardt, automatic.
Hack saw, 6"x6" O. & C.
Hammer, steam, 500 lb. Bell.
Keyseater, Mitts & Merrill.
Keyseater, No. 6 Morton, 4 cutters.
Magnet wind'g lathes, hi-speed, (3).
Paper slitter, gang, 46" Jaques.
Pipe machine, 4" Oster, new.
Shear, rotary slitting and circle, No. 387 Toledo.
Slotter, vertical, 12".
Welder, acetylene, No. 5 Economy, portable.

SECOND-HAND MACHINERY

FOR SALE BY

The Noble Machine Co.,

Ft. Wayne, Ind.

ARC LAMPS.

10 Wood system, form C., arc lamps, 110 volts, direct current, with metal reflectors and inner globes, copper jackets made by the Ft. Wayne Electric Works. Each.....\$ 8.00.

FOR SALE BY

Colcord-Wright Mchy. & Supply Co., 1227 N. B'way, St. Louis, Mo.
USED TOOLS.

Blower, No. 2 Roots.
Boring machine, horizontal, 4-spindle Newton.
Hammer, board drop, 200 lbs. Toledo.
Lathe, 32 in. x 10 ft. New Haven.
Miller, vertical, 24x24 in. x 6 ft. Ingersoll.
Radial drill, plain, 4 ft. Dreses.
Turret lathe, 2x24 in. Jones & Lamson.
Millers, Planers, Drills, Grinders, etc.
Let us know your wants.

FOR SALE BY

Chas. Molitor Machinery Co.,

215 S. Clinton St., Chicago, Ill.

<p>Air compressors. Air riveters and presses. Beam shear. Bolt and pipe threaders. Bolt header, National. Car wheel boring machine, 50" Crane derricks. Gap shear. Grinder, universal. No. 1 B. & S. 100 other iron and woodworking machines, motors, etc., etc.</p>	<p>Hammers, drop and trip. Lathe, 24"x8" Lodge & Shipley. Miller, No. 6 Garvin. Planer, 36"x36"x12' Bement. Planer, 36"x20"x16' double head, frog and switch. Punches and shears, heavy. Screw machine, semi-auto., No. 2 Brown & Sharpe.</p>
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FOR SALE BY

F. P. Schlelein Machinery Co.,

North Side, Pittsburgh, Pa.

<p>Band saw, 20" Crescent. Bench lathe, 7" Goodell & Pratt. Chain hoist, 1 ton, round. Drill, portable, No. 4 Dallett. Engine lathe, 12"x5' Champion. Engine lathe, 14"x6' Monarch. Exhaust fan, No. 9 Champion, 16" inlet and outlet. Grindstone frame, iron, with stone 28"x3". Miller, plain, No. 2A Kempsmith.</p>	<p>Hammer, steam, double frame, 600-lb. Pittsburgh. Motor, 2 h.p. Lundell, 500 volts, d.c. Planer, pony, 16" Jewel. Planer, 24"x24"x6' G. A. Gray. Pressure blower, No. 4 Buffalo, 5" outlet. Screw press, open back, No. 3 Young & Wheeler. Shaper, 6"x9" Boynton & Plummer. Wire cutter, hand, 1/4" cap., J. Adt.</p>
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FOR SALE BY

The Noble Machine Co.,

Fort Wayne, Ind.

ENGINE LATHE.

One hardly used 32"x12' engine lathe, made by Walcott & Wood Machine Tool Co., weight 9,000 lbs., 2 1/2" hollow spindle, used only about 6 months. Will sell cheap or trade for a new 20"x12' double back geared lathe or a practically new machine.

SECOND-HAND MACHINERY

FOR SALE BY

E. G. Eldridge, 566 Washington Blvd., Chicago, Ill.

High Quality and Low Prices on the following—satisfaction guaranteed.

MILLING MACHINES.

We have a large stock of Owen Milling Machines, plain and universal, with attachments and small tool equipments. For advertising purposes, we are offering them to consumers at the regular dealer's net cost. We also sell them subject to the factory's written guarantee, covering accuracy, workmanship and material. The machines are strictly high grade and these prices, we believe, are unparalleled.

No. 0 Owen b. g. plain miller, feeds 18x6x15 in., power long, feed, new complete.	\$337.50
No. 2 Owen b. g. plain miller, all power feeds 28x7½x18 in., 16 spindle speeds, 32 table feeds, net weight 2850 lbs., new, complete.	612.00
No. 3 Owen 3-stp. cone, dbl. b. g. pl., all power feeds 34x10x19½, 18 spdl. spds., 32 table fds., net weight 4200 lbs., new, complete.	810.00
No. 1½ Owen universal miller, all power feeds 21x7½x18 in., 32 table feeds, net weight 2900 lbs., new, complete.	740.00
No. 2 Owen universal miller, all power feeds 25x7½x18 in., 16 spindle speeds, 32 table feeds, net weight 3000 lbs., new, complete.	783.00
No. 3 Owen universal miller, all power feeds 30x10x19 in., 18 spindle speeds, 32 table feeds, net weight 4400 lbs., new, complete.	1035.00

DRILL PRESSES.

1. 2, 3 & 4-spdl. guarantee ball-bearing high-speed sensitive drills.
- 26 in. Rockford, sliding head, b. g. and p. f. drill, slightly used.
- 30 in. Grand Rapids belt driven sensitive radial, with tapping attachment, cap. 1 in.; will drive ¾ in. twist drill thru 5 in. cast iron in 1 minute.
- 2½ ft. Wm. E. Gang latest improved radial with cone drive, countershaft, gear feeds, high speed and tapping attachment, slightly used.

Other drill presses, new and second hand.

GRINDERS.

- No. 1 Norton Universal cutter and reamer grinder and attach., fine order.
 - No. 2 Brown & Sharpe universal grinder and all attachments, splendid order.
- Special planer type grinder, 41x41 in. x 7½ ft., with 2 vert. spindles, operating from cross rail, 2 14-in. diam. cup wheels.

LATHES.

- 12 in.-22 in. x 5½ ft. Barnes sliding extension gap lathe, over-hauled like new, by the builders.
- 14 in. x 5 ft. Hendy quick change gear tool room lathe, comp. r., with oil pan.
- 14 in. x 6 ft. Monarch, compound rest, complete, new.
- 16 in. x 6 ft. Monarch, 3 step cone, q. c. g., complete, new.
- 16 in. x 6 ft. Rahn Larmon, compound rest, complete, new.
- 18-25 in. x 8 ft. Rahn Larmon gap lathe, complete, new.
- 18 in. x 8 ft. Monarch, 5 step cone, s. b. g., complete, new.
- 18 in. x 10 ft. Monarch, 5 step cone, s. b. g., complete, new.
- 22 in. x 10 ft. Rahn Larmon heavy pattern lathe, complete, new.
- 33 in. x 10 ft. Perkins b. g. eng. lathe, comp. rest, p. c. f.

PUNCH PRESSES.

- No. 2 Stiles, 1800 lbs., solid back.
- No. 4 R. & K., American Can, o. b. i., wt. 3000 lbs., flywh' 1500 lbs., 2½ in. stroke.
- No. 3 Hoepf, o. b. i., wt. 2000 lbs., fly wheel 375 lbs., 2 in. stroke.
- No. 63 Consolidated, straight side, 2 in. stroke, with tie rods, k. d. wt. 3600 lbs., fly wheel 1000 lbs., nearly new.

SCREW MACHINES.

- No. 1 Pratt & Whitney late model ½ in. capacity hand screw machine, 12 collets, independent stop each hole of turret.
- No. 1 American hand screw mche., 7 collets, ½ in. w. f. cap., lot of dies & tools.
- ½ in. Cleveland late model standard 5-hole turret automatic screw machine, with countershaft, set of chuck and feed shells, A1 condition.
- No. 5 Windsor, 2 in. w. f. cap., g. f. h., complete, overhauled.
- 2½ in. bar cap. Foster flat turret lathe, complete, bar equipment, nearly new.

MISCELLANEOUS.

- Hammer, steam, 1,000 lb. Bement, standard guide.
 - Planer, 22 in. x 5 ft. Pond, 1 head.
- Large stock of Engines, Boilers, Wood Working Machinery, Pulleys, Shafting, Belting, etc. Can fill all requirements, Write us.

SECOND-HAND MACHINERY

FOR SALE BY

O. L. Packard Machinery Co.,

Milwaukee, Wis.

LATHES.

14" x 6' Hamilton, c. r., power cross fd., hollow spdl., a modern tool...	\$ 225.
28" x 12' American, 2 sets raising blocks	750.
72" x 22' comp. rest, with raising blocks to swing 120"	1,000.
15" Turret lathe,	150.

PLANERS.

36" x 36 x 10'	\$ 650.
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MISCELLANEOUS.

Lathe, 15" Garvin, Monitor	\$ 250.
Pipe machine, No. 8 Merrell	300.
Punch press, inclinable, No. 30 Perkins	105.
Screw machine, 4" P. & W., automatic	375.
Screw machine, 1" Dreses, complete, has seen but very little wear	275.
Shaper, 2 spindle, wood top, good order.	50.

FOR SALE BY

Brown-McDonald Machinery Co.,

906-908-910 North Market Street, - - - St. Louis, Mo.

BLOWERS.

14 Blowers, all sizes, including 2 No. 7 Roots rotary.

COMPRESSORS.

6x6 Laidlaw-Dunn-G., horiz., steam.	7x7 Star, vertical, belt driven.
10x11x12 Franklin, horiz., steam.	

DRILLS.

21 in. Mechanics. w. & l., sq. b., new.	30 in. back geared.
No. 33 Reed, 3 spindle sensitive.	10 in. Hill-Clarke.
No. 34 Reed, 4 spindle sensitive.	20 in. Aurora, square base, p. f.

GRINDERS.

10 Emery grinders, all sizes.

LATHES.

5 speed lathes.	15x 6 Rockford, c. r., hol. spdl., new
16x 6 Steptoe-McFarland.	16x7½ Shepard, gap.
14x 6 Flather.	17x 8 Fifield.
14x 6 Monarch, c. r., hol. spdl., new.	18x14 Lodge-Davis, c. r., hol. spd

MILLING MACHINES.

Mason, plain.	No. 10 Kempsmith, plain.
No. 1 Rockford, plain, new.	Cincinnati, slab milling & boring.

PIPE MACHINES.

2½ in. Curtis & Curtis, power.	2½ in. power.
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PLANERS.

20x20x5 Thayer-Houghton.	32x30x9½ Smith.
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PRESSES.

Small, hand screw.	No. 4 Swaine, foot power.
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PUNCH.

No. 6 Long & Allstatter single punch or shear, power, cap. ½ in ½.

PUNCH & SHEAR.

No. 6 Long & Allstatter, cap. ½ in ½, alligator pattern.

SHAPERS.

12 in. Hendey.	16 in. Steptoe.
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SHEARS.

6 in. Simplex, hand, lever.	Square shear, 36 in. knife, power.
30 in. Acme, foot-power, square.	K. C. Die & Mould. Co. slitting
2 Small, hand, for round iron.	shear, adj. 2½ to 26 in.

MISCELLANEOUS.

Boring mill, 54 in. Powell.	Forming roll, 30 in. P. S. & W.
Buffing lathe on col., No. 2 Diamond.	Gear cutter, Brainard.
Cold saw, No. 2 Burr.	

Large stock of Engines, Boilers, Wood Working Machinery, Pulleys, Shafting, Belting, etc. Can fill all requirements. Write us.

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FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

9x44 Seneca Falls, plain rest.
12x 5 Prentice Bros., c. r., p. c. f.
14x 5 Hendey, c. r., taper.
14x 5 Reed, rise & fall, p. c. f.
14x 6 Porter, c. r., p. c. f.
16x12 Bullard, plain rest.
16x 8 Porter, c. r., p. c. f.
16x 8 Bullard, compound rest, p. c. f.
16x 8 Pratt & Whitney speed lathe.
18x 6 Lodge & D., compound rest,
p. c. f., taper.
18x 8 Schumacher & Boye, c. r., p. c. f.
18x 8 Reed, c. r., p. c. f.
20x 8 Fay & Scott, c. r., p. c. f.
20x10 Draper, c. r., p. c. f.
22x10 Bullard, compound rest, p. c. f.
24x12 Putnam, c. r., p. c. f.
25x 9 Sellers, compound rest.

27x12 Pratt & Whitney, comp. rest.
28x22 New Haven, compound rest.
28x12 Putnam, c. r., p. c. f.
30x12 Johnson, c. r., p. c. f.
30x16 Fay & Scott, c. r., p. c. f.
36x15 Lathe & Morse, c. r., p. c. f.
36x14 Lodge & Shipley, c. r., p. c. f.
36x16 Reed, c. r., p. c. f.
38x20 Fay & Scott, compound rest.
40x18 Newark, triple geared.
46x28 Fitchburg, triple geared.
84x20 compound rest, p. c. f.
103x35 Bement, triple geared.
16 in. x10 ft. auto. threading lathe.
60 in. Stevens pulley lathe.
16-32x14 Fay & Scott gap, motor dr.
20-42x12 Fay & Scott, gap.
32x18 Fay & Scott, column facing.

MILLERS.

Nos. 1 & 1½ Cincinnati, universal.
No. 5 Cincinnati, plain.

No. 1 Milwaukee, plain.
8 ft. Beaman & Smith, planer type.

DRILLS.

7-spindle Slate, gang.
20 and 30 Snyder, sliding head.
Style F, 12 in. Baker Bros.
4 spindle Foote-Burt, adj. rail.

3-spindle Barnes, gang.
4 ft. Bickford, plain radial.
10 spindle Gardam, adjustable.
72 in. Bement, universal radial.

SHAPERS.

16 in. Smith & Mills, back geared.
16 in. Gould & Eberhardt, motor dr.
22 in. Cincinnati, back geared.

20 in. Kelley, crank.
26 in. Lodge & Davis, shifting belt.
24 in. Gould & Eberhardt crank.

GEAR CUTTERS.

22x 4 in. Gould & Eberhardt, spur
and bevel.
No. 1 Slate, auto. pinion cutter.

24 in. Brainerd, spur and bevel.
24x7 Gould & Eberhardt, spur only.

SCREW MACHINES.

½ in. Garvin, wire feed.
¾, 1, 1½ & 2 in. P. & W., auto.
14 in. Windsor set-over Monitor.
3x36 Pratt & Whitney.
1½x18 in. and 3x36 Pratt & Whitney.

2x24 and 3x36 Jones & Lamson, late
type.
2½ in. Warner & Swasey, wire feed.
22x8 Bullard, combined.
24 in. American heavy turret.

PLANERS.

15x15x 3 Pratt & Whitney, 1 head.
22x22x 4 Powell, 1 head.
24x24x 6 Whitcomb, 1 head.
24x24x 6 Pease, 1 head.
26x26x 5 New Haven, 1 head.

30x30x10 Gleason, 1 head.
38x38x 8 Gleason, 1 head.
41x41x12 Newark, 1 head.
48x48x16 New Haven.
60x46x12 New Haven, 1 head.

HAMMERS.

25 lb. Dupont, trip.
50 lb. Bradley, compact.

1000 lbs. Pratt & W., board drop.
400 lbs. Stiles, board drop.

MISCELLANEOUS.

Boring mill, 2½ in. bar, Bement.
Boring mill, 51 in. Bement-Miles.
Boring mill, vertical, 50 in. Niles.
Cylinder borer, Beaman & Smith.
Fan, exhaust, 50 in. Buffalo.
Grinder, 20x62 in. Landis universal.
Grinder, 10 G. Besley, disc.
Grinder, No. 60 Heald, cylinder.
Grinder, surface, Walker.

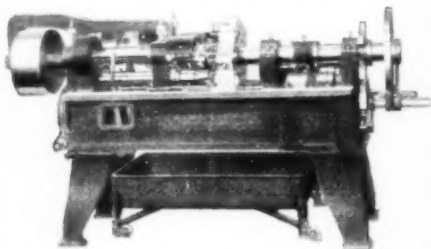
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